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Vol. 48 No. 6

FEB 28 1984

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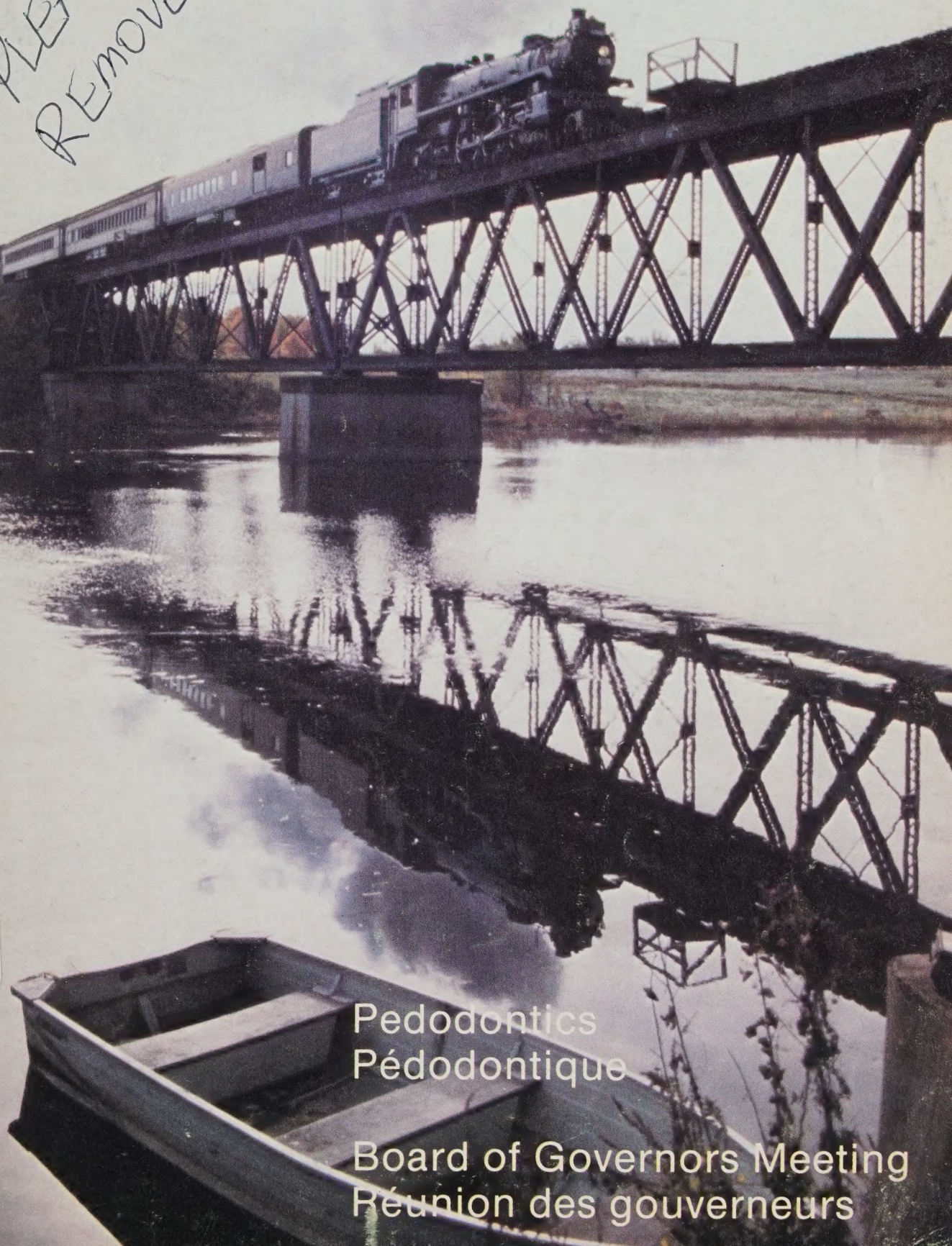
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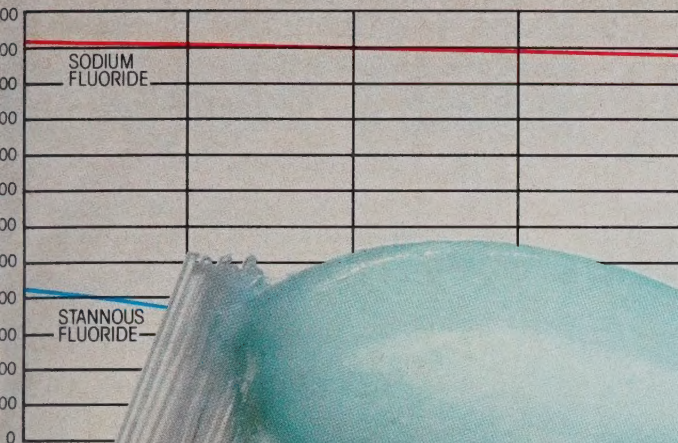
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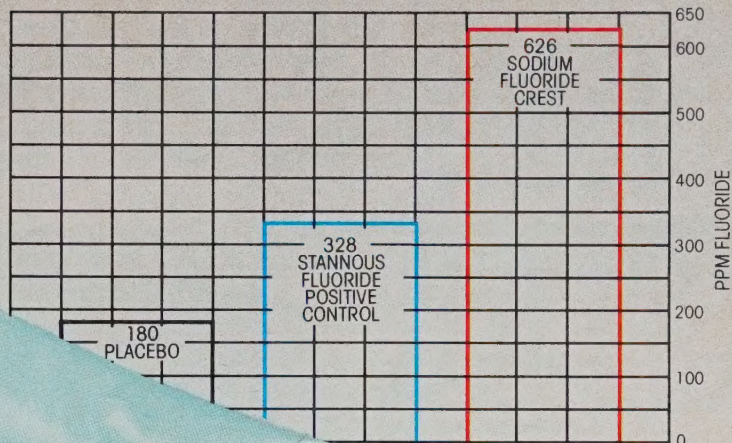
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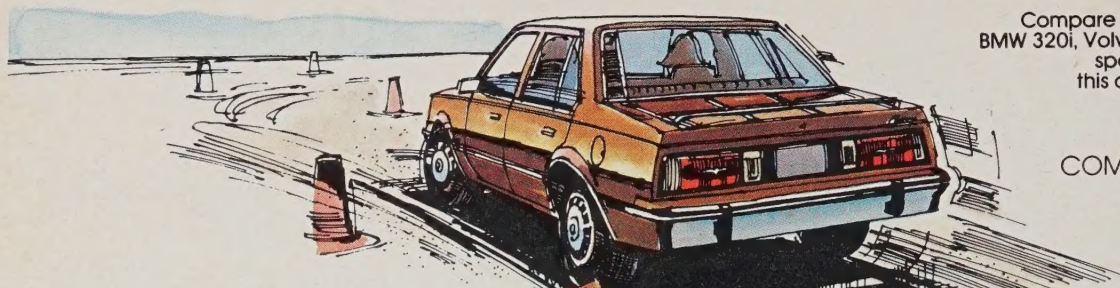
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Pedodontics

Board of Governors
Meeting

Editorial

- 347 Dr. Erwin Lightman advises that it is time to stop doing studies and surveys, and to get to work giving much-needed dental care to the elderly.

Letters

- 352 Responses to Dr. Clyde Covit's letter in the March edition of the CDA Journal discuss the matter of membership in the FDI.

In the News

- 354 **Dental office contents damaged: What steps does the dentist take?**
CDSPI has found that few dentists are aware of what takes place when a loss occurs. Who do you call? What do you have to do?
- 356 **Drug addict "patients" a growing problem**
Dentists are now becoming the target of drug addicts who formerly duped medical practitioners to write prescriptions for controlled drugs for spurious "health problems."

- 362 **B.C. dental health survey reveals marked improvement**
A British Columbia health ministry survey of the dental health of children in that province indicates a marked improvement over the last 20 years.

- 363 **U.S. appeals court upholds three-level membership**
A U.S. federal appeals court has ruled that the three-level federated dental association membership system does not violate U.S. anti-trust laws.

Human jaws are shrinking
A Syracuse, N.Y. orthodontist-evolutionist notes our softer diet is leading to receding jaws.

- 364 **Briefly**
Dental news items from around the world are highlighted.

- 366 **CDA Resource Centre**
Current articles available from the CDA Library on the subject of Geriatric Dentistry are listed.

- 369 **Highlights — interim Board of Governors meeting**
CDA Executive Director Hubert Drouin reports on the most important decisions taken at a meeting of the Board of Governors March 19-20

- 372 **CDA Financial Statement 1981**

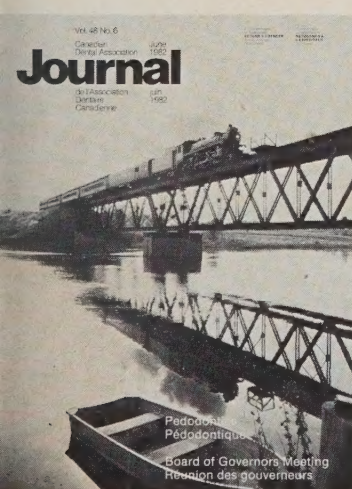
The auditor's report on the financial status of the CDA and its components as of Dec. 31, 1981.

Publications

- 387 **Essentials of Complete Denture Prosthodontics**
"This book is another of the many excellent textbooks on complete dentures available today. It developed from the editor's 1977 Dental Clinics of North America issue, on the same subject." — Dr. A. Fenton
- 388 **Textbook of Operative Dentistry**
"This text reflects the combined efforts of two highly-acclaimed teachers and clinicians in the field of operative dentistry, along with a world authority in the related field of dental materials and, as such, provides a solid framework for the treatment of dental disease." — James Brown

Scientific

- 389 **Nursing Bottle Syndrome; prevalence and etiology in a non-fluoridated city** — G.D. Derkson et al.
- 395 **Normalization of dental care for handicapped patients in a medium-sized Canadian city: a team approach** — B.A. Richardson et al.
- 401 **Fluoride varnishes as cariostatic agents: a review** — Lawrence Yanover.
- 363 Obituaries
- 388 RRSP
- 407 Marketplace
- 409 Announcements
- 409 Advertiser's Index



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ISSN0709 8936

- 348 Le Dr Erwin Lightman estime que le temps est venu de cesser les études et les enquêtes, et de commencer à donner aux personnes âgées les soins dentaires dont elles ont tant besoin.

Actualités

- 366 **Le Centre de ressources de l'ADC**
Une liste des articles sur la médecine géro-dentaire qui sont accessibles à la bibliothèque de l'ADC.
- 374 **Faits saillants de la réunion des gouverneurs**
M. Hubert Drouin, directeur général de l'ADC, fait état des principales décisions qui ont été prises lors de la réunion des gouverneurs qui a eu lieu les 19 et 20 mars.
- 376 **Rapport financier 1981 de l'ADC**
Le vérificateur fait état du rapport financier de l'ADC au 31 décembre 1981.
- 378 **Dégâts au cabinet du dentiste: qu'est ce qu'il faut faire?**
Le CDSPI estime que peu de dentistes savent ce qu'il faut faire en cas de sinistre: qui joindre? comment s'y prendre?
- 380 **Les "patients" narcomanes: un problème croissant**
Les dentistes deviennent la cible des narcomanes qui trompaient jusqu'ici les médecins pour obtenir des ordonnances en feignant des troubles de la santé.

- 381 **Amélioration de la santé dentaire en Colombie-Britannique**
Une étude du Ministère de la santé de la Colombie-Britannique indique la santé dentaire des enfants de cette province s'est améliorée de façon remarquable au cours de vingt dernières années.

- 383 **En bref**
Un tour d'horizon des principales informations dentaires dans le monde.
- 387 **Atlas clinique de prothèses combinées**
"Cet ouvrage, sans prétention, présente vingt-cinq cas clinique avec autant de suggestions de traitement par prothèses combinées." — Normand Brien
- 363 Nécrologie
- 385 REER
- 407 Petites annonces
- 409 Avis
- 409 Index des annonceurs

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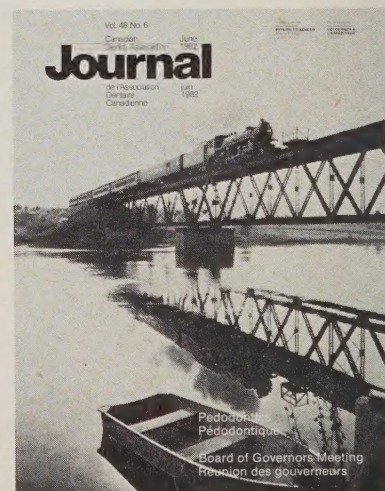
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GERIATRIC TREATMENT A "CRYING NEED"

For the past 28 years, I have been deeply involved in dental care of the elderly. Most of this time was spent in service at Baycrest Centre for Geriatric Care in Toronto. Originally our dental service operated one morning a week. And as the institution grew we expanded to three full mornings a week.

One of the projects we undertook at Baycrest was a survey to determine the denture needs of an aged population. As each resident entered the institution a dental examination was carried out. Our survey was based on over 500 such examinations and our results were extrapolated to the general aged population.

The conclusions of course indicated a crying need for treatment. Other surveys by Banting, Martinello and Leake have come to the same conclusions. The need for dental care for the elderly of this country is great and we, the dental profession, must address ourselves to this problem now. Unfortunately we are still doing studies and surveys.

It is high time we *stopped* doing studies and surveys. We have to go into the nursing homes, old folks homes, chronic hospitals and other extended care facilities, and get to work. Even the simplest procedures such as prophylaxis, amalgam fillings, simple extractions, correcting sore spots, relining ill-fitting dentures and adjusting the bite would be a godsend to our elderly.

One of the top priorities of the elderly is their ability to be able to chew. We can help them do that. We can also raise their self-esteem with the replacement of missing teeth or the construction of a full denture.

Our greatest ally is the dental hygienist and she can provide special services for the elderly living in institutions. The hygienist can detect some of the simple needs of the patient and pass such information on to the dentist. They can provide excellent maintenance for the elderly. It has always been important to retain and maintain the natural dentition and I think the hygienist is one of the keys in the provision of such services.

Unfortunately the dental profession has closed its eyes to the needs of the elderly. On any list of priorities the elderly are usually near the very bottom.

We could awaken the interest of the profession by starting with the undergraduate. Courses in gerontology (the study of aging) should be introduced in the early undergraduate years followed by the lectures and clinical work involving the student in the actual treatment of the aged. Many new graduates leave our dental schools without actually meeting or treating elderly patients.

A connection can be developed between our undergraduate clinical programs and the dental treatment of residents in nursing homes and other extended care facilities. There are such programs in existence, but only on a limited scale. These must be expanded and become an integral part of the dental undergraduate training.

We have a tremendous job on our hands.
Let's get on with it!

*Erwin Lightman, DDS
Toronto, Ontario*

DENTISTERIE POUR LES GENS ÂGÉS: UN PRESSANT BESOIN

Au cours des 28 dernières années, je me suis beaucoup occupé des soins dentaires accordés aux gens âgés. J'ai passé la plupart de ce temps au Centre de gériatrie Baycrest, à Toronto. Au début, le service dentaire était ouvert un matin par semaine, puis, l'institution se développant, trois matins par semaine.

Parmi les projets entrepris au Centre Baycrest, une étude a été faite pour déterminer les besoins des gens âgés en rapport avec les dentiers. Chaque patient accueilli à l'institution a été soumis à un examen dentaire. Basée sur 500 examens, l'étude a fourni des données qui, par extrapolation, ont été appliquées à la population des gens âgés en général.

Il va sans dire que les résultats indiquaient un pressant besoin de traiter ces gens. D'autres études menées par les Drs Banting, Martinello et Leake ont conduit aux mêmes conclusions. Chez nous, les vieillards ont grandement besoin de soins dentaires et, nous, membres de la profession dentaire, devons nous occuper de ce problème maintenant.

Il est temps que nous *arrêtions* les études et les enquêtes et que nous allions dans les maisons de repos, les asiles, les hôpitaux pour malades chroniques et les autres établissements semblables pour nous mettre au travail. Aux vieillards, tout semblerait un présent du ciel, même les traitements les plus simples comme les prophylaxies, les obturations à l'amalgame, les extractions, le soulagement des parties sensibles, le rebasage des dentiers mal ajustés et la correction de l'occlusion.

Pour les gens âgés, il est essentiel de pouvoir mâcher. Nous pouvons les y aider. Nous pouvons également leur redonner de l'amour-propre en remplaçant une dent qui leur manque ou en complétant leurs dentiers.

Notre meilleure alliée est l'hygiéniste dentaire, car elle peut rendre des services spéciaux aux vieillards habitant dans une institution. En plus d'être bien placée pour découvrir certains de leurs simples besoins et d'en informer le dentiste, elle peut voir à ce que leurs dents restent saines. Il est toujours important de conserver sa denture naturelle en bon état et, à mon avis, l'hygiéniste est l'une des principales personnes concernées pour l'administration de ce service.

Malheureusement, la profession dentaire a fermé les yeux sur les besoins des personnes âgées. Sur toute liste de priorités, le vieillard vient habituellement presque en dernier.

Nous pourrions sensibiliser la profession à ce problème en commençant avec les non diplômés. Dès les premières années d'études en dentisterie, on devrait donner des cours de gérontologie aux étudiants, puis des conférences et des travaux cliniques leur demandant de participer au traitement des vieillards. Plusieurs nouveaux diplômés quittent l'école dentaire sans avoir jamais rencontré ni traité un patient âgé.

On pourrait établir un lien entre les programmes cliniques pour non diplômés et les traitements dentaires qui sont donnés dans les maisons de repos et les autres établissements hospitaliers. Pareils programmes existent déjà mais seulement de façon restreinte. Il faut les développer et en faire une partie intégrante de la formation dentaire des non diplômés.

Une tâche considérable nous attend.

Le temps est venu de nous y mettre!

*Erwin Lightman, D.D.
Toronto, Ontario*



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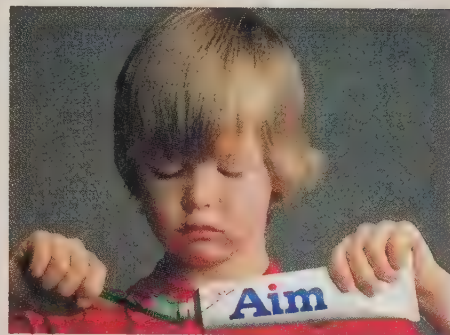


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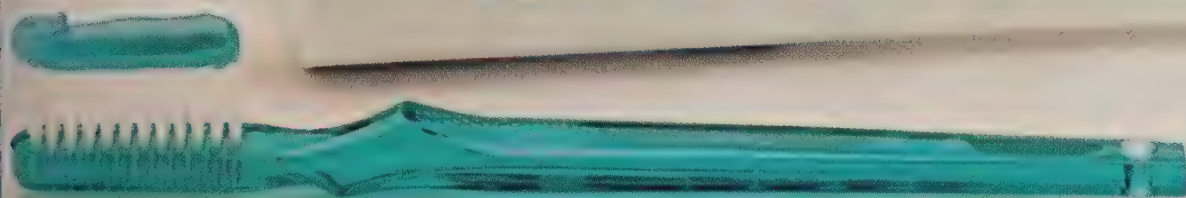


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Letter requires clarification

Dr. Clyde Covit's letter re FDI requires clarification by CDA. The implication is that the only advantage for CDA to belong to this organization is that "eight (8) Canadian consultants to FDI" have status. He infers also that CDA is paying travel and per diem expenses for delegates. The rationale that only individual dentists may profit from membership in this organization through annual meeting write-offs is a serious accusation. I would like to hear the other side of the argument — before I make up my mind as to whether to urge CDA to drop its affiliation or not.

On another subject which appeared above Dr. Covit's signature — "Survey of Health Insurance Benefits in Canada, 1980," I wonder if the title is misleading? At one time Blue Cross organizations across Canada were not members of CAASI. In Manitoba, as I expect all across Canada, Blue Cross writes and administers a large number of Dental Plans. If the figures presented in the article include Blue Cross statistics they are a fairly true picture of dental benefits all across Canada. If Blue Cross has been omitted, as have a number of other administrative organizations (-e.g.- Turnbull and Turnbull in Winnipeg, who administer dental plans for retail food and commercial workers, McLeod — Stepman, etc.), then the figures are not truly indicative of dental plan coverage in CANADA. The trend towards (ASO) Administrative Services only is increasing very rapidly — particularly amongst govt. workers' unions, crown corporation employees, and railway unions — (14 of them alone — numbering about 400,000 employees and dependents), who have received dental benefits in their contracts. All these numbers should be accurately put together in order to have the correct ammunition with which to argue the federal government's proposed tax on dental premiums.

When, originally, I did spade work in the Institution of Third Party Dentistry for Canadians it was with the purpose of postponing Govt. takeover of dentistry. Now I tremble for the elimination of dental plans for tax reasons, and the effect it will have on the economics of dental practice.

Harry Tregobov, BSc., DDS, FICD

FDI benefits 'considerable'

The structure, organization, activities and rationale for CDA membership in the FDI were presented in the Nov. and Dec. 1981 CDA Journals. The following will answer Dr. Tregobov's specific questions and also further elucidate the benefits.

Canada, as one of 78 member countries, pays a corporate fee which allows Canadian participation in all FDI activities on commissions, committees and working groups and ensures input into and reception of, reports and surveys. It also allows Canada to send two official representatives to the congress in Austria in 1982. Such delegates will represent Canada at all congress meetings including voting representation at the General Assembly meetings where FDI policy is established. The Canadian delegates are not paid per diems.

With respect to consultants, Canada now has representation on all four commissions and in addition Dean Beagrie, of U.B.C. dental faculty, is the Chairman of the Commission on Dental Education and Practice. Canadian participation as consultants could be greater and will increase as interested, knowledgeable dentists are identified and nominated for specific commissions and working groups. When consultants attend congresses it is at their own expense but the majority of commission working group activities can be carried by correspondence.

The benefits which accrue to every member country in the FDI are considerable because of the direct asso-

ciation with the World Health and International Standards Organization and in the exchange of information and development of scientific data which is disseminated to member countries as technical reports. There is, however, no question that the advantages to developing countries is most significant through the knowledge available from the input of the more established countries. Canada being a highly developed country, has a great deal to offer and the FDI is the means through which such support can be disseminated.

W.R. Thompson, DDS

FDI Canadian National Treasurer

Comments were 'well taken'

Dr. Tregobov's comments are well taken regarding the CDA having the proper ammunition with which to combat the new federal legislation and its affect on Private Funded Paid Dental Plans.

The article, entitled, "Survey of Health Insurance Benefits in Canada 1980," relates as indicated to the member companies of CLHIA and does not include, as I have indicated in previous articles summarizing the activities of the CAASI group, the various types of dental service corporations across the country.

I too would hope that the CDA Council on Health Care is assimilating the necessary statistics required for the CDA to effectively show the Federal Government how so many Canadians would be adversely affected as a result of their new policy.

*Clyde Covit, DDS
Montréal, Québec*

Shouldn't quarrel 'over nickels'

There are Canadian dentists who dislike Clyde Covit's cameo of condemnation of the Federation Dentaire Internationale in its entirety. (CD Journal March, 1982)

There is much that is wrong with FDI, but it is by working with skillful diplomacy within the organization that beneficial changes can best be made. To threaten to leave over a few nickels and dimes when there are serious issues to be faced certainly jeopardizes Canada's credibility.

I guess I have attended as many FDI meetings as any other currently practising Canadian dentist, and I continue to do so when I possibly can because, above all the conflict which does exist, FDI is a forum where dentists from 100 countries can get together in a cordial fraternal relationship. In a world torn by tension, this accomplishment alone is to me worth paying more than that which may be considered by some to be our share".

Dr. David K. Peters

St. John's, Newfoundland

Who benefits from the FDI

I have read with great interest the letter from Dr. Clyde Covit, published in the March 1982 issue of your Journal concerning membership in the FDI. Unfortunately, Dr. Covit seems to base many of his views on a basic misapprehension, namely that the work of the FDI benefits only those dentists in the member countries who are individual, Supporting Members of the FDI.

Nothing could be further from the truth. The major part of the Federation's activities are intended to be of benefit to the member associations and through them to all their members.

In his article entitled *Scientific Activities of FDI* in the December 1981 issue of your journal, Brigadier-General W.R. Thompson drew attention to the numerous studies carried out by the FDI Commissions which are of use to all practising dentists. The results of this work are published in a series of technical reports on such topics as mercury hygiene, radio-

graphic procedures, hygiene in the dental practice, acid-etching procedures, glass-ionomer cements and endodontic instruments, devices and materials.

The FDI takes up issues of overriding importance to the profession at large where international coordination of experience is essential.

Through its Commission on Dental Products the FDI has already developed in operation with the International Organization for Standardization (ISO) 26 international standards. These establish the quality of dental materials and certain items of equipment throughout the world. The FDI is responsible for the clinical aspects and the ISO for the physical aspects of these standards.

Other Commissions are investigating such problems as the changing pattern of oral health, the overproduction of dentists in industrialized countries, proper teamwork with auxiliaries, planning the most effective dental health education programs as well as other means of prevention.

As regards the Supporting Members, whilst they benefit from the right to attend FDI world congresses and receive the Newsletter, I do not believe that it is mainly these benefits which induce thousands of dentists round the world to become members and stay members for more than 20 years. We have found that they are colleagues who want to widen their horizons and learn about achievements and problems in other countries. Many are altruistic enough to want to support an organization whose work helps their colleagues in the developing countries. One of the great strengths of the FDI has been the idealistic spirit which, during the last 82 years, has led so many eminent dentists to give their time to commission work and so many practitioners to support this work through their annual subscriptions.

It would not be fair, however, to expect them to carry all the Federation's costs as Dr. Covit seems to suggest.

This is not to say that the FDI Council is at all complacent about the problems of financing the FDI. By the time this letter is published, the Executive Committee will have worked out a number of financial recommendations based on cost-effectiveness studies of the programmes of the FDI.

The men who founded the FDI in 1900 saw the need for a unified profession. With all the problems facing the profession this need is no less great today. We hope that Canadian dentists will continue to play an important part in raising the standards of the profession around the world and improving the service the profession provides.

Thorsten Aggeryd

President, FDI, (Sweden)

Publicity to France?

I wish to comment on the cover of the March 1982 C.D.A. Journal.

Is Canada exporting dental health month publicity to France? Are people who read this brochure in French who reside in Canada not Canadians?

Such covers cannot promote harmony within our great country.

Bert J. Levin, DDS, MSC (Dent)

Toronto, Ontario

Word of thanks

Thank you so much for sending our office copies of the recent Canadian Dental Association Journal with information on the brochure on the dialysis patient and the dentist. We have since received numerous requests from your membership for copies of the pamphlet, and therefore appreciate your advising Canadian dentists of this material.

Shelley Paris

Director of Medical and Patient Service Programs

Kidney Foundation of Canada

Dental office contents damaged: What steps does dentist take?

In 1982, the Canadian Dentists' Insurance Program will receive more than 350 claims for loss or damage to dentists' offices across the country. The number of claims is increasing each year and the amount paid out in settlement is of course increasing as well. This increase is taking place for two reasons:

- The increase in the number of claims.
- The higher cost of repairs and higher cost of replacing equipment as well as supplies.

At CDSPI, we find that few dentists are aware of what takes place when a loss occurs. Who do you call? What do you have to do? What do others do for you? Why are there adjustors? When do I get paid? How can I replace the supplies or equipment if I don't have the ready cash? All of these questions will come to mind plus many more if you are unfortunate enough to experience a loss due to fire, water leakage, theft, or vandalism.

At a recent meeting with the claims manager at Guardian Insurance, we asked him for his comments. Here are a few remarks taken from that interview:

CDSPI

In your experience, what do you feel is a major factor in getting prompt settlement of a damage claim?

Claims Manager

If there was only one factor, all would be easy. Unfortunately, just about every claimant is unaware of the most basic procedures that will take place in order for us — the insurance company — to obtain information making it possible to settle the claim.

CDSPI

Oh! Oh! What was a simple question gets complicated. What should a dentist do, say, if on a Monday morning he finds an inch or so of water on the floor of his office. He

also discovers that water has damaged the computer in the bank located below his office?

Claims Manager

He should check to make sure the main shut off valve in the plumbing system is in the "closed" or "shut off" position.

Secondly, advise the building owner and attempt to mop up or clean up the mess.

Next, call CDSPI or the adjustors.

CDSPI

The dentist has called CDSPI, received the telephone number of the adjustors; he has called them and they are on their way to meet with him and to inspect the damage. What happens next? What will the adjustor do?

Claims Manager

The adjustor is hired by the insurance company to gather the facts, interview witnesses, assess the loss and to submit a full report including estimates for repairs and replacement of damaged equipment or furnishings. The adjustor will know of people able to come in to do mopping up and drying out of carpets, etc.

CDSPI

Within a short time, maybe just a few hours, work can commence aimed at getting the dental office operational. Is that correct?

Claims Manager

Yes, everyone is interested in keeping the "down time" to as few hours or days as possible.

CDSPI

Delays in claim settlement will occur. What causes these delays? What should a dentist do to avoid them?

Claims Manager

There is no magic formula to solve this problem. If I am permitted to give advice, here is what I would say:

- a) Be sure you are adequately covered.

That means be aware of the cost of replacing equipment, furnishings

and supplies at today's prices.

- b) Insure for at least 80 per cent of the cost of replacement otherwise we have to apply the co-insurance clause of the contract. If you insure for only 50 per cent of the cost of replacement co-insurance means we only pay 50 per cent of the claim. You the dentist, are self insuring the other 50 per cent.

- c) If you suffer a loss and your insurance coverage is at least 80 per cent or more, then, we pay the full cost of repairs or replacement. Invoices **must be** presented to prove that replacement has in fact taken place.
- d) Keep an inventory of equipment, furnishings and supplies making sure that a copy of the document is filed away from the office. Photographs of each room of the office can be a big help in establishing the loss.

CDSPI

Let's say that due to theft, a dentist lost an electric typewriter, a large quantity of supplies, a stereo system and other items. The loss may be several thousand dollars and finding ready cash to replace these items may be hard to find. What then?

Claims Manager

No problem — if we know what the situation is, we will issue our cheque jointly to the dentist and the supplier or we will arrange to have the equipment delivered and we will pay the supplier directly.

CDSPI

If a dentist has a loss and decides not to replace the piece of equipment (for example, thieves take a sound system that cost \$1,500 a year ago, what happens?

Claims Manager

If the dentist decides not to replace the stereo, we will settle for an amount taking into account the depreciated value of that piece of equipment. We issue a cheque to the dentist for that amount.

CDSPI

The information you have provided may be basic but will be helpful. Would you like to close with a comment on loss prevention?

Claims Manager

Loss prevention is a topic we could discuss for hours but let me say this. A dentist can do some simple things to prevent a loss. For example:

1. Know his equipment, particularly the water connections to his chair. What type of connection is it? Press on plastic connectors or clamp on? Clamp on is preferable.

2. Don't leave valuables about. An expensive watch, ring or other jewelry should be under lock and key when not worn.

3. Provide a safe place for patients to leave personal effects such as a coat. So many losses take place in winter time because a coat rack is placed near an open doorway — that is just asking for trouble.

4. Have good quality locks installed on all doors. An alarm system is also a good deterrent if the office is on the ground floor where access to windows is easy.

5. Carry adequate insurance coverage. Paying the premium will be a great deal less costly than paying for a loss.

6. Always turn off the water supply to equipment at the end of the day as the water pressure invariably increases overnight.

CDSPI

Thank you, could we do this again and perhaps get your views on other areas of general insurance? I am thinking specifically about earnings insurance.

Claims Manager

Of course, anytime. Earnings insurance or business interruption insurance is a good subject. I dare say it is a subject that generally is more obscure than problems concerning theft or fire loss.

CDSPI hopes this article has provided you with information you can use in order to protect yourself against a claim for water damage or theft.

If more details are needed, please contact CDSPI. Watch for further articles to assist you with your day to day insurance requirements.

Motrin[®]

(ibuprofen) tablets

Product Information

Action: Ibuprofen has demonstrated anti-inflammatory, analgesic and antipyretic activity in animal studies designed to specifically demonstrate these effects. Ibuprofen has no demonstrable glucocorticoid effect.

Following a single 200 mg dose of ibuprofen in humans, useful blood levels were demonstrable in 45 minutes and still present in six hours but at barely detectable levels. Peak levels occurred at approximately one hour after ingestion. Levels were lower when taken in conjunction with food.

Ibuprofen is rapidly metabolized and eliminated in the urine. The excretion of ibuprofen is virtually complete 24 hours after the last dose. The serum half-life of ibuprofen is 1.8 to 2 hours. There is no evidence of drug accumulation or enzyme induction.

Ibuprofen has been found to be less likely to cause gastro-intestinal bleeding in doses usually used than is acetylsalicylic acid.

Clinical trials in man have shown activity of a dose of 1200–1800 mg of ibuprofen daily to be similar to that of 3.6 grams of acetylsalicylic acid daily.

Indications and Clinical Uses: Motrin (ibuprofen) is indicated for the treatment of rheumatoid arthritis and osteoarthritis. Motrin is also indicated for the relief of mild to moderate pain accompanied by inflammation in conditions such as musculo-skeletal trauma and post-dental extraction. Motrin is also indicated for the relief of pain associated with dysmenorrhea.

Contraindications: Motrin (ibuprofen) should not be used in patients who have previously exhibited hypersensitivity to it, or in individuals with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to acetylsalicylic acid or other nonsteroidal anti-inflammatory agents. (see WARNINGS)

Motrin should not be used during pregnancy, in nursing mothers or in pediatric patients because its safety under these conditions has not been established.

Warnings: Anaphylactoid reactions have occurred in patients with known A.S.A. hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported in patients receiving Motrin (ibuprofen). Peptic ulceration, perforation, or severe gastrointestinal bleeding can have a fatal outcome, and although few such reports have been received with Motrin, a cause and effect relationship has not been established. Motrin should be given under close supervision to patients with a history of upper gastro-intestinal tract disease.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in colour vision have been reported. If a patient develops such complaints while receiving Motrin (ibuprofen), the drug should be discontinued and the patient should have an ophthalmologic examination. Fluid retention and edema have been reported in association with Motrin therefore, the drug should be used with caution in patients with a history of cardiac decompensation or renal disease.

Motrin, like other nonsteroidal anti-inflammatory agents, can inhibit platelet aggregation but the effect is quantitatively less and of shorter duration than that seen with acetylsalicylic acid. Motrin has been shown to prolong bleeding time (but within the normal range) in normal subjects. Because this prolonged bleeding effect may be exaggerated in patients with underlying hemostatic defects, Motrin should be used with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients on Motrin should be cautioned to report to their physicians signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

When Motrin is added to the treatment program of patients who have been on prolonged corticosteroid therapy, and it is decided to discontinue this therapy, the corticosteroid should be tapered slowly to avoid exacerbation of disease or adrenal insufficiency.

Aseptic meningitis has been reported in connection with Motrin therapy in patients with systemic lupus erythematosus. Such patients may also develop hypersensitivity reactions to Motrin such as fever, rash or abnormal liver function more often than those with other disorders. Caution should therefore be exercised when considering Motrin therapy for patients with systemic lupus erythematosus.

Drug Interactions

Coumarin-type anticoagulants: Several short-term controlled studies failed to show that Motrin significantly affected prothrombin times or a variety of other clotting factors when administered to individuals on coumarin-type anticoagulants. However, because bleeding has been reported when Motrin and other nonsteroidal anti-inflammatory agents have been administered to patients on coumarin-type anticoagulants, the physician should be cautious when administering Motrin to patients on anticoagulants.

A.S.A.: Animal studies show that A.S.A. given with nonsteroidal anti-inflammatory agents including Motrin yields a net decrease in anti-inflammatory activity with lowered blood levels of the non-A.S.A. drug. Single dose bioavailability studies in normal volunteers have failed to show an effect of A.S.A. on Motrin blood levels. Correlative clinical studies have not been done.

Adverse Reactions: The following adverse reactions have been noted in patients treated with Motrin (ibuprofen):

Note: Reactions listed below under Causal Relationship Unknown are those which occurred under circumstances where a causal relationship could not be established. However, in these rarely reported events, the possibility of a relationship to Motrin cannot be excluded.

Gastrointestinal: The adverse reactions most frequently seen with Motrin therapy involve the gastrointestinal system.

Incidence 3 to 9%: nausea, epigastric pain, heartburn

Incidence 1 to 3%: diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the gastrointestinal tract (bloating or flatulence)

Incidence less than 1%: gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, hepatitis, jaundice, abnormal liver function (SGOT, serum bilirubin and alkaline phosphatase)

Central Nervous System

Incidence 3 to 9%: dizziness

Incidence 1 to 3%: headache, nervousness

Incidence less than 1%: depression, insomnia

Causal relationship unknown: paresthesias, hallucinations, dream abnormalities

Dermatologic:

Incidence 3 to 9%: rash (including maculopapular type)

Incidence 1 to 3%: pruritus

Incidence less than 1%: vesiculobullous eruptions, urticaria, erythema multiforme

Causal relationship unknown: alopecia, Stevens-Johnson syndrome

Special Senses:

Incidence 1 to 3%: tinnitus

Incidence less than 1%: amblyopia (blurred and/or diminished vision, scotomata and/or changes in colour vision). Any patient with eye complaints during Motrin therapy should have an ophthalmological examination (see PRECAUTIONS)

Causal relationship unknown: conjunctivitis, diplopia, optic neuritis

Metabolic:

Incidence 1 to 3%: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS)

Hematologic:

Incidence less than 1%: leukopenia and decreases in hemoglobin and hematocrit

Causal relationship unknown: hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes (e.g. purpura, epistaxis, hematuria, menorrhagia)

Cardiovascular:

Incidence less than 1%: congestive heart failure in patients with marginal cardiac function, elevated blood pressure

Causal relationship unknown: arrhythmias (sinus tachycardia, sinus bradycardia, palpitations)

Allergic:

Incidence less than 1%: anaphylaxis (see CONTRAINDICATIONS)

Causal relationship unknown: fever, serum sickness, lupus erythematosus syndrome

Endocrine:

Causal relationship unknown: gynecomastia, hypoglycemic reaction

Renal:

Causal relationship unknown: decreased creatinine clearance, polyuria, azotemia

Symptoms and Treatment of Overdosage: A nineteen month old child weighing 12 kg ingested from 2800 to 4000 mg of Motrin (ibuprofen) and presented with apnea, cyanosis and responded only to painful stimuli. Oxygen and parenteral fluids were given and at 12 hours she appeared completely recovered. Two other children (10 kg each) ingested 1200 mg of Motrin each and there were no signs of acute intoxication or late sequelae. A 19 year old male who had ingested 8000 mg of Motrin reported dizziness, and nystagmus was noted. He recovered with no reported sequelae after parenteral hydration and three days' bed rest.

In cases of acute overdosage, the stomach should be emptied by vomiting or lavage, though little drug will likely be recovered if more than an hour has elapsed since ingestion. Because the drug is acidic and is excreted in the urine, it is theoretically beneficial to administer alkali and induce diuresis.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis. The initial daily dosage in adults is 1200 mg divided into 3 or 4 equal doses. Depending on the therapeutic response, the dose may be adjusted downward or upward. The daily dosage should not exceed 2400 mg.

Maintenance therapy, once maximum response is obtained, will range from 800 to 1200 mg per day.

Mild to moderate pain accompanied by inflammation, dysmenorrhea. 400 mg repeated as required every 4 to 6 hours. The daily dosage should not exceed 2400 mg.

Children: Due to the lack of clinical experience, ibuprofen is not indicated for use in children under 12 years of age.

Supplied: 200 mg (yellow), 300 mg (white), 400 mg (orange) sugar-coated tablets and 600 mg (peach) film-coated tablets in bottles of 100 and 1000.

Product monograph available on request. CE 1542 1C

7910 REGISTERED TRADEMARK: MOTRIN

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Drug addict "patients" a growing problem

For some time, medical practitioners have been the targets of conning drug addicts, using health problems as excuses for prescriptions for controlled drugs and narcotics.

Now dentists are facing the problem.

This abuse has become "a serious situation" according to a warning issued recently to dental registrars by Mr. Jacques G. LeCavalier, Director, Bureau of Dangerous Drugs, Health Protection Branch, Health and Welfare Canada.

Monitoring by the staff of the Bureau, may have removed some of the pressure from the medical profession.

"We have noticed that the problem has become more prevalent with dentists since early 1981," said Mrs. Denise Boucher, Chief of the Domestic Control Division. "When we put the lid on (medical profession problem), it seems to pop up somewhere else." She admitted it may well be that some of the same addicts have been diverted toward dentists, as a result of the more intense surveillance.

"Monitoring the distribution of narcotics and controlled drugs, we note that these drugs are being prescribed more frequently by dentists," Mr. LeCavalier states.

"Often, in response to a Department enquiry, the dentist will advise that the person for whom the drugs were prescribed visited his office during a busy time, complaining of pain. It is apparent that the dentist has frequently prescribed without first having examined the patient. Habitual drug users are very skillful at simulating symptoms, to obtain narcotics and controlled drugs, and, in addition, some have discovered that they can take advantage of the dentist's empathy. Repeatedly, Mr. LeCavalier noted, "we have determined that these persons are only seeking sources of

drugs to support their addiction, or for profitable resale."

Mrs. Boucher said dentists are often duped by these addicts' other health problems. The addict's teeth are very often in poor condition anyway, and requests for suppressants may appear to be quite bona fide.

Use old tricks

In some of the cases on the record, dentists have been conned into prescribing stronger than usual narcotics. The addicts have used the old trick of playing one practitioner against another. They approach the dentist at a busy time, appealing for emergency medication, and tell him that another dentist (or doctor) has previously prescribed a drug that "worked great." The dentist has been too busy to check the validity of the claim with a fellow practitioner. An appointment is made for examination and possible treatment, but the "patient" doesn't keep the appointment.

"A dentist therefore must use extreme caution when an individual unknown to him requests a specific medication or a prescription for any of these drugs," warns Mr. LeCavalier.

"We would also like to emphasize that the Narcotic Control Regulations, as well as those respecting controlled drugs, state that the practitioner may only administer, prescribe, give, sell or furnish a narcotic or controlled drug to a person or animal:

- a) If the person or animal is a patient under his professional treatment; and,
- b) if the narcotic or controlled drug is required for the condition for which the person or animal is receiving treatment.

With respect to dentists, the prescribing of these drugs must therefore

be limited to dental conditions. We are certain that we can count on the co-operation of dentists in order to prevent the abuse," said Mr. LeCavalier.

Worse in West

The problem has not struck in all parts of Canada with equal severity, Mrs. Boucher said. "It has been more prevalent in the Prairie provinces — Alberta, Saskatchewan and Manitoba. And it has now been detected in Québec. We feel the alert should be sounded before it gets any worse."

Bureau of Dangerous Drugs personnel discover most incidents of abuse through checking prescription files of pharmacists and other licenced drug dealers.

The practitioner who appears to have been prescribing unusual levels of controlled drugs or narcotics is then approached and warned to be "more careful before they prescribe," Mrs. Boucher said.

A few practitioners have caused concern, she said, when they give the "bad answer — 'I can't say no.' If they have that problem, they're in trouble. The dentist must justify what he is doing. He has the full responsibility."

Inspectors may also get tips about drug abuse incidents from concerned family members, other professionals or from police or other law enforcement agents. Police on occasion will pick up an addict who has made the remark: "Go to Doctor X, he'll give you a prescription."

When the problem began to surface in the early months of 1981, the Bureau of Dangerous Drugs moved to apply a measure of control by re-scheduling certain products containing oxycodone and hydrocodone, a straight narcotics. They may now only be prescribed in writing, not by telephone.

Ten questions your patients may ask about the new low-calorie sweetener, NutraSweet™

Recently, foods and beverages made with a completely new kind of food sweetener, NutraSweet* aspartame sweetener, were introduced in the marketplace. Here are the answers to some of the most frequently asked questions about this revolutionary new product.

1. Exactly what is NutraSweet?

NutraSweet is not a sugar. NutraSweet is a sweet, nutritive substance made of protein components like those found naturally in most foods. It is a sweet compound of two amino acids, aspartate and phenylalanine.

2. What foods are made with NutraSweet?

A variety of foods are made with NutraSweet: carbonated soft drinks, pre-sweetened cereals, instant puddings and dessert toppings, flavored crystal beverages and chewing gum.

Equal® (Égal® in French), the new low-calorie tabletop sweetener in packets and tablets, is also made with NutraSweet.

3. Can NutraSweet reduce calories in foods?

NutraSweet sweetens with far fewer calories than sugar. For example, a teaspoon of sugar contains 16 calories. NutraSweet delivers equivalent sweetness with only 1/10 of one calorie. That means, in some foods made with NutraSweet, calories may be reduced as much as 95 percent (see chart below).

4. Can children have foods made with NutraSweet?

Unlike many non-nutritive sweeteners, NutraSweet has been clinically tested with people of all ages.** If a person consumes an amount of NutraSweet equivalent in sweetness to one teaspoon of sugar, he takes in 8.5 mg. of aspartate and 10.6 mg. of phenylalanine. By way of comparison, he takes in 50 times

these amounts when he drinks an 8 oz. glass of milk.

5. Are foods made with NutraSweet more nutritious?

Sometimes. For example, a pre-sweetened cereal made with NutraSweet can offer more protein,



fiber, vitamins and minerals per serving than the same size serving made with sugar. That's because sugar's bulk and calories can be replaced with more cereal grain.

6. Can NutraSweet help reduce tooth decay?

Too many sweets in the diet, combined with poor dental habits, contribute to tooth decay. While diet is only one factor, substituting foods made with NutraSweet for sugar-sweetened foods may help to reduce cavities.

Supporting this theory are studies conducted by the U.S. National Institute of Dental Research that showed use of NutraSweet was not associated with the formation of cavities in animals.***

7. Can persons with diabetes eat the foods made with NutraSweet?

NutraSweet is wel-

come news for persons with diabetes because it is digested and utilized by the body as protein. That means some foods and beverages formerly high in sugar may soon be enjoyed because with NutraSweet most beverages will be totally sugar-free and other foods will be significantly reduced in carbohydrates.

8. Can pregnant women use NutraSweet?

On the basis of animal and clinical studies, Health and Welfare Canada concluded that NutraSweet does not present an additional risk to pregnant women.

The amino acids from NutraSweet will be less than 1% of the total protein consumed over a day. And, consuming foods and beverages made with NutraSweet is just like eating other foods containing the same protein components.

9. Does NutraSweet really taste like sugar?

In two separate studies conducted at a leading university in New York, people were fed a diet that contained sugar-sweetened foods. Occasionally, foods sweetened with NutraSweet were substituted without the subjects' knowledge. Most subjects could not tell the difference between the foods sweetened with NutraSweet and the same foods sweetened with sugar.

10. Can NutraSweet help me control my weight?

Eating foods made with NutraSweet allows you to reduce your daily calorie intake, yet still satisfy your sweet tooth. And because foods made with NutraSweet taste like high-calorie foods, they can help make even a restrictive diet more palatable.

*NutraSweet is a brand name of G.D. Searle & Co. for the sweetener aspartame (APM).

**NutraSweet contains phenylalanine. Physicians with phenylketonuric patients may request additional information on foods made with NutraSweet by calling (1-800) 268-1120 and in British Columbia (112-800) 268-1120.

***Copies of this study may be obtained by calling the 800 telephone number mentioned above.

©1982 G.D. Searle & Co.

Compare the difference in calories:

Food	Containing Sugar	Containing NutraSweet
Hot chocolate (8 oz.)	116 calories	64 calories
Carbonated soft drink (10 oz.)	120 calories	1 calorie
Gelatin dessert (½ cup)	81 calories	10 calories
Whipped topping (4 Tbsp.)	56 calories	28 calories
Chocolate pudding (½ cup)	150 calories	75 calories
Milk shake (1½ cups)	284 calories	135 calories

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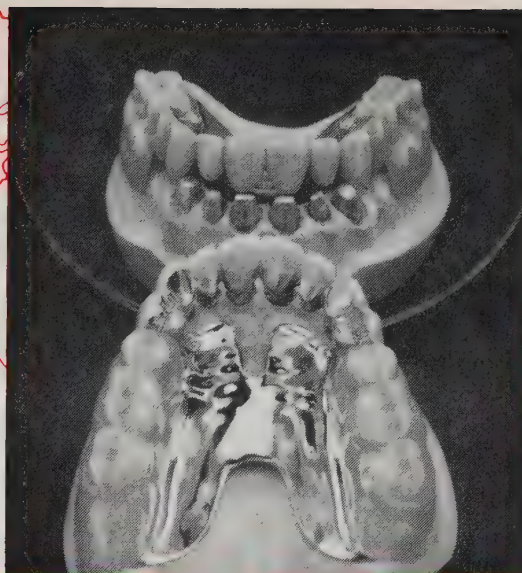
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Wherever you practice there is a Nobilium laboratory nearby . . . ready to process your partials with the "aristocrat of chromium alloys" . . . partials that satisfy every patient desire for dependable fit, functional service, comfort and lifelike aesthetics. Here is the list of skilled laboratories from British Columbia to Nova Scotia equipped with the latest Nobilium equipment and materials and dedicated to serve your every requirement. Entrust your prescriptions to them with confidence.

ONTARIO — TORONTO

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8 Taber Road, Rexdale

Hirsh Dental Laboratories Limited
495 Adelaide Street West

Modent Dental Laboratory
881 Eglinton Avenue West

Pearce Dental Lab
250 Lawrence Avenue West

**The Posen & Furie
Dental Laboratories Limited**
1366 Bathurst Street

Walter Wood Dental Laboratories
527A Bloor Street West

ONTARIO — HAMILTON

**Allen & Rollaston
Dental Laboratory**
Medical Art Bldg., Hamilton 20

ONTARIO — OSHAWA

Multi-County Dental Laboratories
172 King Street East

ONTARIO — THUNDER BAY

Imperius Dental Laboratory
55 North Court Street

BRITISH COLUMBIA — VANCOUVER

**Northwest Dental Laboratories
Limited**
1070 Homer Street

BRITISH COLUMBIA — VICTORIA

A & P Dental Laboratory Limited
401 - 1120 Yates Street

Turner Dental Laboratory
1207 Douglas Avenue, Suite 521

NOVA SCOTIA — AMHERST

**Walter Horton
Dental Laboratories**
31 La Planche Street

NOVA SCOTIA — HALIFAX

Gulf Casting Lab.
6061 Young Street

ALBERTA — CALGARY

**Aurum Crest Dental Laboratories
Limited**
115 - 17th Avenue S.W.

Frame Master Lab.
339 - 6th Avenue S.W.

MANITOBA — WINNIPEG

**Associated Crown & Bridge
Laboratory, Limited**
201 - 407 Graham Ave.

Manitoba Dental Labs.
603 Wall Street
Winnipeg Man. R3G 2T3

ALBERTA — EDMONTON

Northwest Dental Laboratory
10540 - 115th Street

Universal Dental Laboratories Ltd.
10066 Jasper Avenue

New-Johnston Dental Labs.
10202 - 102 Street

SASKATCHEWAN — SASKATOON

Aurum Crest Dental Laboratories Ltd.
336 - 6th Ave. North

QUEBEC — STE. THÉRÈSE

Lafond & Joly Dental Lab.
94 Blainville Ouest

QUEBEC — GRANBY

Julien-Sté. Jean Dental Lab.
356 Rue Principale

QUEBEC — MONTREAL

Amiga Dental Lab.
3400 Jean-Talon West

Dentarium Laboratories
6997 Victoria Avenue

Nobident Dental Laboratory
3726 Jean-Talon West

Roger Sauve Dental Laboratory
5545 Beaubien Est

QUEBEC — QUEBEC CITY

G. Garneau Dental Lab.
386 Dorchester, Sud

R. Laverdiere Dental Laboratory
613 Rue Cyrille Ouest

NEWFOUNDLAND — ST. JOHN'S

Fowler's Dental Laboratory
101 B Lemarchant Road, A1C 2H1

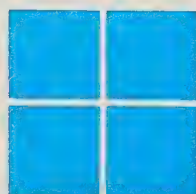
10 ways to pay less for insurance ... and get better protection

It's easy to spend \$2,000 a year or more on insurance — and still not have adequate protection. If you want better protection for less money, here are 10 things to think about:

1. Many agents like to sell life and disability policies with "level" premiums — premiums that don't increase as you grow older. In effect, you're overcharged today so you can pay less tomorrow. In a high-inflation period, that works for the insurance company. Usually, it's cheaper for you to buy a "step-rated" policy — one where the premium does increase as you grow older. The step-rated policy always gives you coverage for a lower cost in the early years — and you can use the saving to good advantage for debt reduction or investment.
2. Consider paying your premiums quarterly, rather than annually. At today's interest rates, keep the money in the bank as long as you can. There's no increased cost to you if you pay premiums quarterly to the Canadian Dentists' Insurance Program.
3. Low deductibles mean higher premiums. On your office contents insurance, for example, you can save 10-15% of premium costs by increasing your deductible from \$250 to \$500. The same principle applies to insurance on your car and home.
4. Keep an accurate and up-to-date inventory of the contents of your home and office. Otherwise, you may forget some items when making a claim after a serious loss.
5. Disability policies pay benefits during sickness and accident only after a "waiting period". The shorter the waiting period, the higher the premium. Consider shifting to a longer waiting period and using the saving for investment or for increasing your basic coverage to a more adequate level.
6. Insurance is a competitive industry and costs vary from policy to policy and company to company. You can save substantial amounts if you shop around. Through its insurance consultants, CDSPI can help you understand the differences in two competing policies so you can make valid cost comparisons.
7. Life insurance policies which combine "savings" with "protection" often mean high-cost protection, low-return on your savings, and more difficulty in understanding exactly what you've got. In most cases, you'll be better off if you stick to term life insurance and set up a separate savings and investment program.
8. The most expensive insurance of all is insurance that doesn't provide enough coverage after a major loss. So keep your coverage up to date: remember to insure your property for the cost of replacing it at today's prices. When renewing, be sure to add the value of any new property to the total amount of coverage.
9. Even with adequate coverage, loss or damage to property will cost you time and money. You can help prevent office losses by a few simple steps: proper locks, doors, and windows on your office; and making sure water supplies to your chair are turned off before you leave.
10. Don't buy insurance at all if you can afford the loss. Concentrate on insuring yourself against major losses which could cripple you financially.

An important service of the Canadian Dentists' Insurance Program is to provide help and information on insurance matters to members of the profession. We'll have our insurance consultants evaluate any insurance proposal or help you assess your own needs.

We're here to help — not to sell insurance

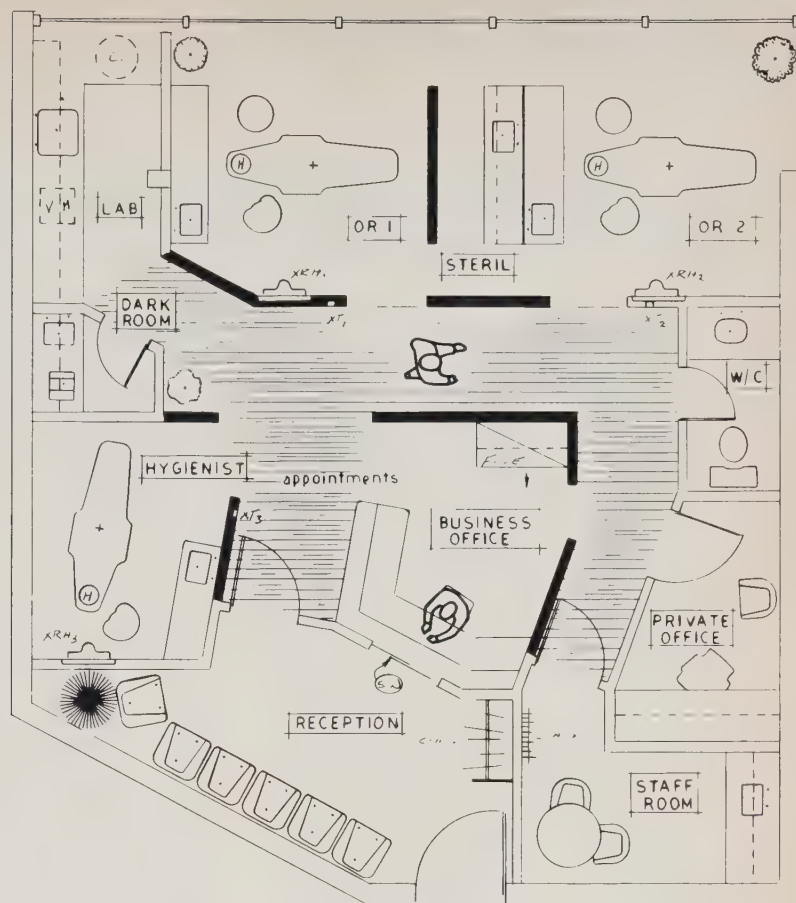


Canadian dentists'
insurance program

For personal insurance service,
please use these new telephone numbers:

1-800-268-5418 toll free
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At Ash Temple we know that anything can upset the balance of a dental office or create more headaches than a relocation or renovation. It's a tricky business and a costly loss. Every square foot has to be accounted for, every piece of equipment has to be accounted for, and most of all, your new or renovated office must not only work smoothly for you but also handle your business for years down the road. That's why we want you to talk to us and our design people before you start. Tell us what your practice requires - the

number of operatories, the necessary staff and office space, your equipment needs, how big the reception area and recovery room, how much storage space - we'll take it from there.

First, we take the measurements of your space and then prepare a preliminary plan for your approval or revisions. This plan then becomes the basis for the detailed working plan which will incorporate all of your needs so that your office is both efficient and comfortable.

The plan shown is an actual plan prepared for a dentist in Windsor, Ontario, it's just one of over 300 plans we will do this year for dentists across Canada.

If you're planning a move, a major renovation, or just starting up - talk to your Ash Temple man. This service is our way of making your job a little easier by helping to get rid of some of the headaches.

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LIMITED

We know what goes into helping dentists.

B.C. dental health survey reveals marked improvement

A marked improvement in the dental health of children in British Columbia over the past 20 years was indicated in results of a 1980 dental survey conducted by the Division of Dental Health Services, Ministry of Health, of that province.

The most dramatic revelation was the reduction in the number of teeth lost through extraction. The recently released report of the survey showed, that, for example, the average number of extracted teeth in 15-year-olds was reduced from 1.1 in 1958-60 to 0.6 in 1967-74, and to 0.1 in 1980.

The extent of dental disease, measured in counts of decayed, missing and filled teeth, has been reduced from 12.4 in 1958-60, to 10.0 in 1967-74 and to 6.9 in 1980 — a reduction of 44 per cent.

Writers of the report concluded that the amount of untreated disease "would seem to be well within the ability of our present dental profession to cope with, over all regions of the province."

The dental health of 8,268 children, aged five, nine, 13 and 15 was surveyed in the study, in which it was found that a majority of children are receiving proper dental treatment.

The level of oral hygiene was shown to be improving, in general, and certainly, with age. Findings indicated a direct correlation between the level of oral hygiene and the amount of periodontal disease. The incidence of serious periodontal disease is low, the report states, and therefore "most periodontal disease present is still completely reversible if children and parents develop good preventive dental care lifestyles."

Quantitative index

A quantitative index was used to classify children according to the seriousness of their need for orthodontic treatment. This is the first time any provincial dental health survey

has used such an index. This method revealed that apparently three to four per cent of children in the province have handicapping malocclusions which present serious physical problems. A further five per cent have malocclusions which would be "highly desirable to correct." Thirteen per cent of children in the age group studied are already under orthodontic treatment. But these may not be the children with the worst malocclusions, the report states.

The study attributes improvements in the area of dental health to such factors as improved public health programs, a preventive approach by a stronger dental profession, greater awareness on the part of both parents and children as to how they can prevent disease, fluoride toothpaste and fluoridation of water supplies.

In measuring completed restorative treatment, the survey revealed that the level of treatment rises by age. For the combined regions of the province, it rises from 66.5 for the nine-year-olds to 77.4 for 13-year-olds and finally to 81.4 for the 15-year-old group. An analysis of the findings led report writers to comment: "generally speaking, it can be said that the majority of treatment needs are being met in this province."

Tooth mortality decline

Survey analysts concluded that "the most encouraging" aspect of the findings was in the area of tooth mortality. In the previous survey, there was an average of 20 missing permanent teeth among 100 nine-year-old children. In 1980, there was only one permanent tooth missing among the same number of children of this age. In the combined 1968-74 surveys, an average of 50 permanent teeth were missing among 100 13-year-old children, whereas in this survey (1980) the figure had been reduced to eight permanent teeth. In the 15-year-old cate-

gory, this figure dropped from 80 to 14 per 100 children.

The percentage of children not requiring treatment has risen in each age group in each of the three surveys. In 1958/60, for example, 35.6 per cent of five-year-olds had no caries defects while in 1980, that percentage had risen to 63.16. Correspondingly, in the 1958-60 study, only 15.0 per cent of 15-year-old children did not require any dental treatment, and 57.93 per cent of them were in this category in 1980.

The objectives of the survey were:

1. To assess the dental health status of specific cohorts of children through estimation of the prevalence of dental caries, periodontal disease, occlusal disharmonies, dento-facial anomalies and other pathological lesions.
2. To identify regional variations in the prevalence of dental diseases and dental anomalies.
3. To measure the extent to which present dental health services are meeting the need for dental treatment and to determine a measure of the unmet dental need in the child population.
4. To provide baseline data for future evaluation of the outcome, resulting from preventive and curative dental services publicly funded through programs such as the Dental Health Care Plan of British Columbia.
5. To meet basic dental research needs of the Ministry of Health.
6. To make ongoing comparison with provincial health surveys where possible.

The survey took place in the year immediately preceding the introduction of the Dental Health Care Plan of British Columbia, on January 1, 1981.

The coordinator and project manager was Dr. H. Jack Hann, Regional Dental Consultant, Vancouver Island

J.S. Appeals Court upholds three-level membership

The three-level membership structure of organized dentistry has been upheld by a U.S. federal appeals court, which affirmed a lower district court's ruling on a lawsuit challenging the federated membership system.

The appeal decision — filed March 4 in the U.S. Court of Appeals for the Ninth Circuit — upholds the ruling of a U.S. District Court that the requirement that a dentist desiring association membership must belong to all three levels (local, state and national) does not violate antitrust laws.

Filed by four Arizona dentists in 1972, the lawsuit *Boddicker vs Arizona State Dental Association, et al.* was an attempt to disengage the federated membership of dentistry's component, constituent and national associations on antitrust grounds. The suit named as defendants the Central Ari-

zona Dental Society, the Arizona State Dental Association and the American Dental Association.

In the appeals ruling, the appellate judges upheld the federal district court's rejection of the appellants' contention that the membership link between the defendant organizations constituted an illegal tie-in arrangement that violates the Sherman Antitrust Act.

The Court held that since the ADA "is a unique organization to which no other is comparable, there would appear to be no market in the 'tied product' — ADA memberships — for the challenged membership requirements to restrain" and that "the relationship of the defendant organizations strongly suggests that membership in the local and state groups cannot be characterized as a product or

service distinct from ADA membership."

"Even if ADA membership is a product distinct from membership in the ADA's constituent and component societies," the Court continued, "the latter derive no economic benefit from sales of ADA memberships, the alleged 'tied product,' so that no per se illegal tying arrangement can be found."

The court further noted that the appellants failed to demonstrate any adverse effect on competition between dentists caused by the challenged three-tier membership requirement.

It also found that the defendant organizations have not monopolized the practice of dentistry in Arizona, since they, in fact, do not engage in the practice of dentistry, and membership in them is not a precondition for an Arizona dental license.

Obituaries

CLARKE, Percy: Dr. Clarke, who practised in St. Stephen, New Brunswick for 52 years, was born in 1893. A McGill University graduate, he was a past president of the New Brunswick Dental Society.

KENNEDY, Verne William: April 12, 1982. Dr. Kennedy was born October 16, 1900 and graduated from the University of Toronto in 1941. He practised for 20 years in Calgary, from 1961-66 at the Alberta Hospital, and from 1966-80 in Edmonton. Dr. Kennedy was a life member of the CDA.

ROULSTON, F.M.: Dr. Roulston of Sudbury, Ontario, was born in 1904 and graduated from the University of Toronto in 1929. He was a life member of the CDA.

Human jaws are shrinking

Today man's jaws and teeth are smaller than those of his prehistoric ancestor. And, Dr. David Marshall predicts, they will get even smaller and the teeth may eventually decrease in number.

The Syracuse, N.Y. orthodontist-cum-evolutionist attributes the change to man's modern diet.

"As we progress on the evolutionary scale, our jaws and teeth are getting smaller. What is happening is that our food is softer. Prehistoric man had to eat coarse food and therefore had to use his jaws (to a greater extent). Due to a lack of function (because of our soft diet) our jaws are getting smaller," he said.

During the 2,750 million years of man's evolution, his head has become broader and larger, the skull and facial bones thinner and the jaws smaller.

Dr. Marshall has been studying the

evolution of the human skull for close to 40 years.

The man of the future, he says, will have fewer teeth, small jaws and a more prominent chin.

"The palate and dental arch are shortening and widening... Reduction in the massiveness of the face, with the reduced breadth and length of the jaws, leads to fewer teeth... The chin will be more prominent, and the jaws will be more moderate, less regular, and smaller because of the lack of function.

"The teeth will tend to be smaller, fewer in number, and even less regular than now in eruption and position. Because he will have fewer teeth, future man will have less trouble with their eruption," Dr. Marshall wrote back in 1975 in his article "Changes in the skull — past, present, and future — because of evolution", published in JADA.

Briefly —

The Faculty of Dentistry, University of Manitoba, recently received a grant of \$150,000 through the Lorne Edgar MacLachlan Charitable Trust.

The grant will encourage the development of a graduate/postgraduate program in Prosthodontics, including Maxillo-facial Prosthodontics, within the Faculty of Dentistry.

It will also aid in the development of a program which would be unique in Canada, under the direction of Dr. W.B. Love, Professor of the Department of Rehabilitative Dental Science.

This program of study will educate and train individuals for academic appointments, where available, research activities, as well as clinical skills in accordance with specialty requirements within the broad scope of Prosthetic Dentistry.

From the beginning of the Faculty of Dentistry in 1958, Dr. MacLachlan has supported the discipline of Removeable Prosthodontics in various ways. He arranged funding for a gold medal, awarded to an undergraduate student demonstrating proficiency in Removeable Prosthodontics. Dr. MacLachlan also established an endowment fund with the University of Manitoba, to encourage the ongoing education of staff within this discipline.

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Dr. Anthony Melcher, Director of the MRC Group in Periodontol Physiology, Faculty of Dentistry, University of Toronto, was installed as president of the 5,000-member International Association of Dental Research at its annual meeting in New Orleans March 18-21, 1982. At the same meeting, Dr. A.R. Ten Cate, dean of the faculty, was elected to the vice-presidency. Dr. Ten Cate will thus assume the presidency in 1984.

The University of Toronto's Faculty of Dentistry has established a unique record in that, since the Association was founded in 1919, four of its members have, or will have, served

as presidents of the International Association. Dr. A.E. Webster served as the Association's third president and Dr. George Beagrie served in 1977-78. Dr. A.H. Melcher is currently in office and Dr. A.R. Ten Cate will serve in 1984-85. In addition, a distinguished Toronto alumnus, Dr. Jack McDonald, served as president in 1968-69.

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Quebec City dental researcher, Dr. Christian Mouton, a microbiologist and immunologist in the faculty of dental medicine at Laval University, says the next best thing to brushing after meals, is chewing.

Chewing stimulates production of saliva, which washes sugar off teeth and reduces the acidic environment that sugar and decay-causing bacteria create.

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The 1980-81 annual report of the Saskatchewan dental plan reveals that overall enrolment is high, with 129,669, or 83.5 per cent of the eligible children, between the ages of four and 15.

The majority of the children received comprehensive dental care from teams of dentists, dental therapists and dental assistants in the 505 dental clinics situated within elementary schools throughout the province. Private dental practitioners also provided referred emergency services to children enrolled in the plan, which cost \$348,000.

Total expenditures for the 1980-81 program were reported to be \$10.9 million, or an average cost of \$77.40 per enrolled child.

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Hoffman-La Roche Limited of Vaudreuil, Quebec, warn that their product Rocaltrol, a recently introduced product on the Canadian market, is not intended for use as a vitamin D supplement for "any purely dental condition."

Use of this product, without appropriate medical precautions, could be life-threatening for the patient, Dr. Sheila McKenzie, professional services manager of the company's pharmaceutical branch, says.

In a letter to the CDA, Dr. McKenzie says that Rocaltrol (calcitriol) is a very potent active metabolite of vitamin D. It is prescribed for the management of either hypocalcemia and osteodystrophy in patients with chronic renal failure undergoing dialysis, hypocalcemia and its clinical manifestations associated with post-surgical hypoparathyroidism, idiopathic hypoparathyroidism and pseudo-hypoparathyroidism, or vitamin D resistant rickets.

Adequate laboratory facilities for monitoring blood and urine chemistries must be available for patients being treated for these conditions. During treatment, progressive hypercalcemia caused from hyper-responsiveness or overdosage may become so severe as to require emergency treatment, Dr. McKenzie warns.

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A new directory, listing health care equipment and supplies (including dental items) made in Canada, could be quite a disappointment to dental establishments.

"Made in Canada Health Care Products," published by the Government of Canada, Industry Trade and Commerce, Ottawa, December, 1981, concerns itself with Canadian-made products, but because there are very few dental supply manufacturers in this country, the list of dental items is very brief, and not all-inclusive.

Supplies such as dental cements, X-ray film, dental floss, dental suture and dental units are all listed under the same category heading in the directory: "Dental." However, because of the sparsity of Canadian dental manufacturers, this manual is not very useful and would have limited use to dental establishments.

The directory, which lists about 30 companies and about 1,500 products, is of more use to medical and hospital establishments since many more medical devices are manufactured in Canada.

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An attendance of about 600 dentists and 80 exhibitors is anticipated at the Greater Niagara Frontier Dental Meeting, which will be held at the

Buffalo Convention Center, September 23-25, 1982.

The featured event at the gathering, sponsored by the Dental Alumni Association of the State University of New York at Buffalo, is the 12th Annual James A. English Symposium on Sept. 23. The subjects will be: "Management of Periodontal Disease: Studies of Modes of Therapy and Their Application to Various Periodontal Disease Conditions," and "Innovators in Health Care Delivery," on Sept. 24.

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Dalhousie University's dental school is the most modern dental education facility in Canada. But little research assistance from public and private sources comes its way.

The school, in fact, ranks fifth or sixth among the 10 Canadian dental faculties on any grants list, the Halifax Mail Star reports, quoting Dalhousie's Dr. Derek Jones, head of the dental faculty's division of dental biomaterials and member of the Medical Research Council's review committee for dental grant applications.

Dental faculties must compete against each other and against medical schools for research dollars.

Medical schools have more research money and offer a wider variety of fields in which to work. The Medical Research Council, the federal government's principal granting agency for medical and dental research, allots only 1.5 cents of every dollar for dental research. The rest goes to the medical schools, Dr. Jones says.

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Dr. Gregory White of Regina is the 1982 president of the College of Dental Surgeons of Saskatchewan.

A graduate of the University of Alberta, Dr. White has practised in Regina since 1962.

Also elected to the College are Dr. B.E. White as vice-president, and Drs. W.M. McKechnie, W.P. Reed, G.A. Riekman, J.K. Sutherland and E.W. Tak as council members.

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Dr. George E. Decker recently retired as Editor of the ADA News Information, the official publication

of the Alberta Dental Association. He also held the position of Executive Director of the ADA for many years.

He was presented with a plaque of appreciation by Dr. P.J. Kirby, President of the ADA.

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Health and Welfare Canada's deadline for applications for research proposals and career awards has been set for July 31, 1982 for possible funding on or after April 1, 1983.

Most renewal applications must also be submitted by the July 31 deadline.

Under the National Health Research and Development Program, Health and Welfare Canada has been able to assist investigators in a variety of research projects aimed at advancing national health goals. In the area of dental medicine, Murray Hunt, University of Toronto, received a \$224,434.61 grant in 1979 to study dental manpower systems in relation to oral health status in Ontario. Claire Infante-Rivard of Montreal received \$68,440.29 to study the prevalence and incidence of caries, malocclusion and periodontal disease in school-age children in the Montreal region.

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The scientific program planned for the 13th International Cancer Congress, September 8 — 15, 1982, in Seattle, Washington, provides major opportunities for informative discussion and updating in the various fields of oncology, including dentistry.

Delegates from 95 nations, experts in every aspect of the prevention, control and treatment of cancer, will attend the congress, which will be held under the auspices of the International Union Against Cancer (UICC). About 12,000 people involved in cancer research and diagnosis, the continuing care and rehabilitation of cancer patients and families, and the development of informative materials about cancer, are expected to attend.

Of special interest to dental oncologists are programs devoted to the increasing role of dentistry as an oncological specialty, dealing with the management of neoplasias of the oral

cavity and a review of selective topics.

Continuing education courses to be conducted include one on Head and Neck Cancer, with discussion of the dental aspects, oral cavity, larynx, chemotherapy and radiation therapy.

Full program details and registration information are available from the Congress office, Suite 1800, Fourth and Blanchard Building, Seattle, WA 98121, U.S.A. or telephone (206) 621-9440. Note that housing accommodation cannot be guaranteed after July 31, 1982.

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The 70th Annual World Dental Congress of the FDI will be held in Vienna October 10-16.

The scientific program and FDI business sessions will take place in the state rooms of the Vienna Hofburg. Planned jointly by FDI's organizing and scientific program committees, the program will focus on geriatric dentistry, comparison of non-surgical and surgical measures in the treatment of advanced periodontal disease and alternatives to noble metal based alloys in dentistry because the General Assembly of the United Nations has designated 1982 as The International Year of the Aging Person.

In conjunction with the Congress, the International Dental Exhibition will be also held in Vienna.

Application forms and the preliminary program can be obtained from the Executive Director of the FDI, 64 Wimpole Street, London W1M 8AL United Kingdom or from the FDI Congress Secretariat 1982, Interconvention, Post Box 80 A-1107, Vienna.

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Dentists in South Africa had the job of tackling a major cavity recently.

Homly the elephant, a long-time resident at the Bloemfontein Zoo, was suffering from a cavity the size of a man's fist in one immense molar. Using enough anaesthetic to kill 70 men, 17 dentists, doctors, veterinarians and technicians set about to rid her of her toothache.

Dentists had to pack the cavity with \$200 worth of amalgam. The procedure took 90 minutes.

CDA Resource Centre/Le Centre de documentation

GERIATRIC DENTISTRY

Copies of the following articles are available at no charge from the library. Original abstracts which were included with the references are provided below. Part of this bibliography was generated with the help of MEDLARS, a computerized information retrieval system for the health sciences field, which has been operational at the library since February, 1982, and is at the disposal of all members.

Current Listings/ en bibliothèque

1. Axelband, Alan A. **Reaching the senior citizen.** New York State Dental Journal, v.47, no.4, April 1981, pp.187-188.

Abstract: "It would be indiscreet to assume that an audience of senior citizens is made up of denture wearers. It is estimated that approximately 51 percent of the elderly population are edentulous."

2. Banting, David and Oudshoorn, Wilhelm. **The clinical management of the aging patient: treatment concepts and procedures.** Ontario Dentist, v.56, no.4, April 1979, pp.19-24.

3. Berger, Ruth. **Nutritional needs of the aged.** California Dental Association Journal, v.7, no.11, November 1979, pp.45-51.

4. Berquist, Herbert C. **Dental care for the institutionalized elderly: is it really all it could be?** California Dental Association Journal, v.7, no.11, November 1979, pp.33-55.

5. Butz-Jorgensen, E., Stenderup, A. and Grabowski, M. **An epidemiologic study of yeasts in elderly denture wearers.** Community Dentistry and Oral Epidemiology, v.3, May 1975, pp.115-119.

DENTISTERIE POUR LES GENS ÂGÉS

On peut obtenir gratuitement de la bibliothèque l'ADC des copies des articles énumérés ci-dessous. Le cas échéant, on a reproduit les sommaires originaux accompagnant les titres. Une partie de cette bibliographie a été préparée à l'aide du système informatisé MEDLARS. En service à la bibliothèque depuis février 1982, ce système permet d'obtenir des renseignements touchant les sciences de la santé et est à la disposition de tous les membres.

Abstract: "The purpose of this study has been to assess the prevalence of denture stomatitis and candida infection in an elderly Danish population. Ten percent of the population above the age of 65 in a Danish community was selected randomly. The study group consisted of 465 persons wearing a removable maxillary denture, who were examined in their homes... The study has revealed that candida infection and poor denture cleanliness are very common in elderly denture wearers."

6. Busse, Geraldine and Simpson, Roger. **Dentistry and nursing work together to improve care of the aged.** Journal of Gerontological Nursing, v.6, no.5, May 1980, pp.280-283.

7. Colchamiro, Esther Kaplan. **Dental care resources for older persons.** Journal of Hospital Dental Practice, v.13, no.4, 1979, pp.141-146.

8. Fishman, Norton and Gordon, Nancy. **Don't they all wear dentures?** Journal of the Massachusetts Dental Society, v.25, no.1, Winter 1976, pp.32-33.

9. Fishman, Norton. **A pragmatic approach to care of the elderly dental patient.** Journal of the Massachusetts Dental Society, v.30, no.1, Winter 1981, pp.3-8.

10. Grabowski, Mikael and Bertram Ulrik. **Oral health status and need of dental treatment in the elderly Danish population.** Community Dentistry and Oral Epidemiology, v.3, May 1975, pp.108-114.

Abstract: "Oral health and dental treatment needs were investigated in 560 elderly persons in the county of Vestsjælland (West Zealand) in Denmark... The final sample population was representative of the total Danish population in relation to sex and socioeconomic status for this specific age group. Oral health was generally poor. In all, 68.2% of the population were edentulous (64.7% of the males, 70.7% of the females), while the dentate persons had an average of 12 teeth; 3.6% were totally edentulous and lacked dentures in both jaws, a further 5.5% were totally edentulous and lacked a denture in one jaw, and 83.4% had removable dentures. Only 3.4% of the dentate and 28.2% of the edentulous persons did not need any dental treatment. The total percentage of people needing treatment was 80. Prosthetic treatment was the main requirement, applying to 80% of the group..."

11. Kamen, Saul. **Skills training in geriatric dentistry.** New York State Dental Journal, v.47, no.4, April 1981, pp.202-205.

Abstract: "The special oral problems of the aged require a distinct

- body of knowledge and skills geared to the biological, physiological, pathological, and psychological effects of aging on the oral apparatus. In this respect, it is clear that dental schools have provided inadequate training in gerodentics, both to predoctoral and postdoctoral students."
2. Kesner, Arthur. **Geriatric dentistry in the nursing home — the patient/dentist relationship.** New York State Dental Journal, v.47, no.4, April 1981, p.199.
 3. Ketron, Ruth. **Dental aspects of the aging.** Journal of the Tennessee Dental Association, v.60, no.1, January 1980, pp.17-20.
 4. Koerber, Leonard G. **The dental consultant and long term care facilities.** Journal of the Massachusetts Dental Society, v.30, no.1, Winter 1981, pp.23-26.
 5. Kowitz, Michael D. et al. **Prosthetic maintenance research program for the geriatric patient: a cooperative study by the dental profession and the Dental Laboratory Conference.** California Dental Association Journal, v.7, no. 11, November 1979, pp.37-44.
 6. Langer, Anselm, Michman, Julius and Librach, Gershon. **Tooth survival in a multicultural group of aged in Israel.** Community Dentistry and Oral Epidemiology, v.3, May 1975, pp.93-99.
Abstract: "Survival of natural dentition was studied in a multicultural group of 826 elderly people living in sheltered conditions in three old-age homes. It was found that the ratio of dentate subjects decreased progressively with age. The proportion of dentate men was significantly higher than that of women. The ratio of dentate subjects among the immigrants from Afro-Asian countries was significantly higher than among the European group. As the number of denture wearers among the elderly of European origin greatly exceeded that of Afro-Asian extraction, the assumption was made that the more advanced cultural background of the Europeans motivated them to take more advantage of dental services and as a result they had more teeth extracted due to pre-prosthetic preparations. The mandibular teeth showed a higher survival rate than the maxillary. Most remaining dental units (teeth and roots) were found in the front region in both jaws, with definite persistence of canines and a clear tendency towards diminishing numbers of posterior tooth types. Studies on tooth survival may provide useful information for assessing needs and planning services for the aged in modern society and may contribute to better understanding of prosthetic problems encountered in practice."
 17. Manderson, R.D. and Ettinger, R.L. **Dental status of the institutionalized elderly population of Edinburgh.** Community Dentistry and Oral Epidemiology, v.3, May 1975, pp.100-107.
 18. Massler, Maury. **Geriatric dentistry.** Pennsylvania Dental Journal, v.48, no.3, May/June 1981, pp.5-6.
 19. Massler, Maury. **Geriatric dentistry: the problem.** Journal of Prosthetic Dentistry, v.40, no.3, September 1978, pp.324-325.
 20. Massler, Maury. **Geriatric nutrition: the role of taste and smell in appetite.** Journal of Prosthetic Dentistry, v.43, no.3, March 1980, pp.247-250.
 21. Massler, Maury. **Geriatric patient care.** New York Journal of Dentistry, v.52, no.1, December 1981 — January 1982, pp.7-9.
 22. Rafal, Sidney. **Geriatric dentistry: the problem.** Journal of the Massachusetts Dental Society, v.30, no.1, Winter 1981, pp.10-17.
 23. Ranking, M.P. **Geriatric dentistry — a new look at an old problem.** Ontario Dentist, v.54, no.8, August 1977, pp.13-14.
Abstract: "The dental profession has, for many years, endorsed a programme of total dental care but it recognized that this would never be possible without an effective prevention programme starting with pre-school children."
 24. Rise, Jostein. **Validation of data on demand and need for dental treatment in an elderly population.** Community Dentistry and Oral Epidemiology, v.7, February 1979, pp.1-5.
Abstract: "The present paper intended (1) to validate some key variables employed in a survey of a representative sample of 241 persons aged 65-79 in Troms in Northern Norway, and (2) to discuss aspects of social policy related to dental programs for pensioners. The participants were asked questions focused on potential demand for dental services, and oral problems. Treatment need was assessed professionally... Validity was studied in terms of sensitivity and specificity. Using referral as a criterion, the question related to potential demand displayed a sensitivity of only 53%, probably because of the imprecise wording, while the specificity appeared to be 82%. Ninety-five persons reported oral problems. The existing subsidy arrangements operating in a traditional service setting did not seem to cope ade-

quately with this problem group. Treatment need was a sensitive (88%), but not a specific (43%) indicator of oral problems. Viewed socio-politically, these findings may be interpreted as a need for visiting services and for an upgrading of the value of self-assessment. It was concluded that this method of validation provided additional information on the practical usefulness of the test methods employed."

25. Thomas, Annette M. and Ship, Irwin I. **Current status of geriatric education in American dental schools.** *Journal of Dental Education*, v.45, no.9, September 1981, pp.589-591.

A current government publication presently available from the library/resource centre is "**Made in Canada Health Care Products**".

Published by the Government of Canada, Industry, Trade and Commerce in December, 1981, the 207-page document was recently reviewed by Dr Ralph Barolet, Chairman, CDA's Council on Dental Materials and Devices.

Review: "The Government of Canada has just published a directory which lists health care equipment and supplies which are made in Canada. The manual contains information on about 300 companies and 1500 products. The products and their manufacturers are listed in four sections. These are medical devices, in-vitro diagnostics, general hospital equipment and general hospital supplies. A fifth section lists manufacturers and their products. The manual uses a simplified cross-reference system so that easy reference is possible. A list of key words is also provided to assist in finding the required listing. As the title states, this manual concerns itself with Canadian made products. As

there are very few dental manufacturers in Canada, the list of dental items is quite brief and not at all inclusive. Such differing items as dental cements, dental x-ray film, dental floss, dental sutures and dental units are all listed under the same heading "Dental". Because of the sparsity of

Canadian dental manufacturers, this manual is not useful or would have very limited use to dental establishments. It is of more use to medical and hospital establishments since many more medical devices are of Canadian manufacture as compared to dental devices."

Anatomy of a great toothbrush.



Manufacturers of Lactona toothbrushes, dental accessories, Universal porcelain and plastic teeth.

Highlights — interim Board of Governors meeting



Executive Director Hubert Drouin has prepared the following report of highlights of a meeting of the CDA Board of Governors in Ottawa, March 9-20.

Most prominent among the items of business transacted was the adoption of two policy statements on the subjects of dental services and dental hygiene.

PAYMENT FOR DENTAL SERVICES

The Canadian Dental Association recognizes the value of services provided by members and commends payment based on the individual services provided as being the one method that is equitable for all parties involved.

Payment of fees for individual services rendered allows dental patients to select a dental practitioner of their choice and requires the patient to participate in the selection of a treatment plan appropriate to their needs and circumstances.

As alternate systems of compensation for dental services such as closed panel capitation systems, deny one or more legitimate freedoms to either the patient or the dentist, the CDA therefore declares its opposition to such access or payment mechanisms.

The CDA accepts a commitment to make its views known to dental care plan administrators, plan purchasers, and the public generally, along with the reasons for this position in effort to ensure that residents of Canada have continued access to the best possible method of obtaining quality dental care.

DENTAL HYGIENE

Dental hygienists were developed by the dental profession to provide delegated dental hygiene services to patients while under the supervision of a dentist. Dental hygiene services are an important part of the total oral health care of the patient. Such services are an integral part of the overall patient treatment plan which is developed by the dentist and therefore must be completed under adequate dental supervision within the context of the overall dental needs of the patient. The dentist maintains legal responsibility for the total dental care of the patient and is professionally responsible for services provided by the dental hygienist.

The systems of education and licensure of dental hygienists are based on the auxiliary status of the dental hygienist. Dental hygienists are educated to perform dental hygiene functions under the supervision of a dentist. The educational and the provincial licensing systems historically have maintained this relationship between dentists and dental hygienists. The current accreditation standards continue to reinforce that responsibility. The dental hygiene curriculum prepares the graduate to perform delegated functions competently as a licensed dental hygienist.

The dental profession is committed to the importance of a comprehensive oral health care program for patients. Diagnosis, preventive services, restorative care and health maintenance

are viewed as inseparable components of an integrated dental care program.

During the past several decades, dentists and dental hygienists working together have greatly enhanced the therapeutic and preventive dental services available to the Canadian public. The combined efforts of the dental profession, provincial licensing boards and dental hygiene are essential to increase the access to and provision of dental care and the maintenance of high standards of practice and education.

FINANCIAL STATEMENTS

The Financial Statements were presented for the fiscal year ending December 31, 1981, and were adopted. The Association enjoyed a surplus of \$461,953. for 1981. This amount places the Association in a good financial position and negates the large deficit experienced two years ago. The financial statement is shown in detail elsewhere in this issue of the Journal.

LIFE MEMBERSHIP

This category of membership is available to all those CDA members who have practised for forty years and/or have reached age 65. Members who qualify are encouraged to apply to the Executive Council for consideration. Applications received in any given year will be effective the following year.

CDSPI

The Board approved a number of changes to the CDSPI. These modifications will once more enhance the insurance plans available to members. You are encouraged to study the information provided in the announcements. These are:

(i) Long Term Disability Coverage to Age 70

CDSPI/LTD. coverage is extended to age 70 based on the following:

In the News

- coverage can be continued (renewed) on a yearly basis to age 69 on a 31-day elimination basis.
- Maximum of coverage is the maximum for LTD at that time (currently \$4,000).
- The benefit period is a two year maximum
- The coverage is applicable to total disability only.
- The premium to be negotiated with the carrier, not to exceed \$45/\$100 of coverage.

(ii) Instant Cash for Widows (ers)

Immediate financial assistance to beneficiaries at the time of death of a Life policyholder, and upon notification of death, is now available and is retroactive to January 1, 1982.

(iii) Goodwill Cash Settlement/ Malpractice Insurance

The "Assumption of liability clause" is amended as follows:

"The insured shall not accept at his own cost or *voluntarily* make any payment, assume any obligation or incur any expenses other than for first aid to others at the time of accident. *However*, activities carried out under the auspices of any official grievance committee are permitted without prejudice to this insurance."

COUNCIL ON CONSTITUTION & BY-LAWS

The Board considered and approved changes to its by-laws relative to the structure of its Councils on Health Care and Education, which now limit membership to members of the CDA. The Association has, however, informed the auxiliary groups that participation by both the Canadian Dental Hygienists' Association and the Canadian Dental Nurses' and Assistants' Association is desirable and will continue. Both organizations have been assured of CDA's wish to continue to maintain the good relationship which has existed for so many years.

COUNCIL ON DENTAL MATERIALS & DEVICES

The Council on Dental Materials &

Devices has been discussing with the Canadian Standards Association, the possibility of a certification program for dental products. The Board has endorsed these discussions and this program will be developed over the months ahead.

COUNCIL ON HOSPITAL SERVICES

The following accreditation classifications were approved:

(i) Provisional Approval

On the basis of a site visit and an institutionally prepared prospectus this classification is granted to an Institution/Program where it has been found that the Institution/Program has a number of major deficiencies or weaknesses in one or more basic areas. The deficiencies or weaknesses are considered to be of such magnitude that, if not corrected, withdrawal of the Institution/Program's accreditation status will result. Evidence of significant progress must be demonstrated within one year.

(ii) Conditional Approval

On the basis of a site visit and an institutionally prepared prospectus this classification is granted to an Institution/Program where specific deficiencies or weaknesses exist in one or more specific areas of the program. The deficiencies or weaknesses are considered to be of such a nature that they can be corrected in one year. An Institution/Program receiving the status of **CONDITIONAL APPROVAL** must provide a progress report at the end of the year.

(iii) Full Approval

On the basis of a site visit and an institutionally prepared prospectus this classification when granted to an

Institution/Program indicates that the Institution/Program achieves or exceeds the minimum requirements for **APPROVAL** as established by the Council on Hospital Services. The accreditation classification specifies that the Program has no serious deficiencies or weaknesses. However, recommendations or suggestions relating to program enhancement are generally included in the evaluation report. This approval is for three (3) years.

The Board accepted reports from a number of Committees such as the Taxation Committee which has been actively engaged in several representations to the federal government over the past several months. A joint committee has now been formed with the Canadian Bar Association, the Canadian Medical Association and the Canadian Institute of Chartered Accountants to review methods for Improvement in Pre-Tax Retirement Savings Opportunities.

Many organizations such as the National Dental Examining Board, the Association of Canadian Faculties of Dentistry, the Royal College of Dentists of Canada and the Canadian Fund for Dental Education attended the Board Meeting and participated actively in the deliberations of the 24 governors who represent the members of the Association. We are therefore pleased to once again list each governor so that you may know who represents you should you wish to make your views known regarding the affairs of the Association.

Hubert Drouin,
Executive Director
Secretary, Board of Governors

1981-1982 Board of Governors Bureau des gouverneurs — 1981-1982

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Health & Welfare Canada
Santé et Bien-être Canada
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Department of Veterans Affairs
Ministère des Anciens combattants

In the News

Financial Statement

We have prepared the balance sheet of the Canadian Dental Association as at December 31, 1981 and the statements of revenue and expenses and surplus, revenue and expenses and surplus for the Library Trust Fund and the Grieve Memorial Lectureship Fund and changes in financial position for the year then ended. Our examination was made in accordance

with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the Association as at December 31, 1981 and the results of its operations and the changes in its

financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

McCay Duff & Company

Chartered Accountants

Ottawa, Ontario,
January 21, 1982

BALANCE SHEET AS AT DECEMBER 31, 1981

ASSETS		
	1981	1980
Current		
Cash	\$ 545,764	\$ 91,937
Deposit certificates	200,000	150,000
Accounts receivable	66,591	101,795
Inventory (note 1)	45,169	31,973
Prepaid expenses	25,025	17,173
	<u>882,549</u>	<u>392,878</u>
Fixed (notes 1 and 2)	1,332,289	1,375,359
	<u>2,214,838</u>	<u>1,768,237</u>

TRUST ASSETS		
Cash	58,380	53,507
Bonds and deposit certificate	5,343	5,343
Due from Canadian Dental Association	—	847
Library books and furniture (at nominal value)	1	3,339
	<u>63,724</u>	<u>63,036</u>
	<u>\$2,278,562</u>	<u>\$1,831,273</u>

LIABILITIES		
Current		
Accounts payable	\$ 50,420	\$ 73,255
Deferred revenue	588,409	574,444
Due to Trust Fund	—	847
Current portion of long term debt	6,000	6,000
	<u>644,829</u>	<u>654,546</u>
Long Term Debt (note 3)	448,094	453,729

SURPLUS		
Surplus	1,121,915	659,962
	<u>2,214,838</u>	<u>1,768,237</u>

TRUST LIABILITIES		
Accounts payable	500	300
Library Trust Fund	57,455	56,666
The Grieve Memorial Lectureship Fund	5,769	6,070
	<u>63,724</u>	<u>63,036</u>
	<u>\$2,278,562</u>	<u>\$1,831,273</u>

STATEMENT OF REVENUE AND EXPENSES AND SURPLUS FOR THE YEAR ENDED DECEMBER 31, 1981

	1981		1980
	Budget	Actual	Actual
Revenue			
Fees (schedule A)	\$1,766,419	\$1,781,072	\$1,237,806
Grants	36,500	45,185	44,326
Journal (schedule C)	337,700	315,312	285,120
Publications	30,000	42,331	40,594
Interest	25,000	104,902	19,754
Rental	106,961	112,383	107,021
Other (schedule B)	18,000	61,288	28,403
	<u>2,320,580</u>	<u>2,462,473</u>	<u>1,763,024</u>
Expenses			
Honoraria and per diem	143,250	168,998	155,145
Salaries and benefits	448,350	458,949	408,764
General and administration (schedule D)	283,700	296,614	245,569
Conferences	29,000	48,178	30,946
Journal (schedule C)	396,550	376,993	334,594
Other publications (schedule E)	57,000	51,813	42,489
Institutional advertising	15,000	—	—
Travel and meetings (schedule F)	227,600	290,782	231,294
Property/management	215,000	225,697	194,717
Dental Health Month	30,000	29,028	24,510
Accreditation surveys	25,700	15,009	24,275
Dental Aptitude Program	34,400	38,459	25,487
	<u>1,905,550</u>	<u>2,000,520</u>	<u>1,717,790</u>
Excess of revenue over expenses for the year	415,030	461,953	45,234
Surplus — beginning of year	659,962	659,962	614,728
Surplus — end of year	<u>\$1,074,992</u>	<u>\$1,121,915</u>	<u>\$ 659,962</u>

STATEMENT OF CHANGES IN FINANCIAL POSITION FOR THE YEAR ENDED DECEMBER 31, 1981

	1981	1980
Source of Funds		
Operations		
Excess of revenue over expenses for the year	\$461,953	\$ 45,234
Item not requiring working capital — depreciation	57,296	44,688
	<u>519,249</u>	<u>89,922</u>
Application of Funds		
Purchase of fixed assets	14,226	35,627
Reduction of long term debt	5,635	5,626
	<u>19,861</u>	<u>41,253</u>
Increase in working capital	<u>499,388</u>	<u>48,669</u>
Working capital (deficiency) — beginning of year	(261,668)	(310,337)
Working capital (deficiency) — end of year	<u>\$237,720</u>	<u>(\$261,668)</u>

LIBRARY TRUST FUND

STATEMENT OF REVENUE AND EXPENSES AND SURPLUS FOR THE YEAR ENDED DECEMBER 31, 1981

	1981	1980
Revenue		
Interest	\$ 9,648	\$ 4,760
Expenses		
Binding	67	164
Write down of books and furniture	4,965	774
Subscriptions	524	692
Supplies and services	3,303	—
	<u>8,859</u>	<u>1,630</u>
Excess of revenue over expenses for the year	<u>789</u>	<u>3,130</u>
Surplus — beginning of year	56,666	53,536
Surplus — End of year	<u>\$57,455</u>	<u>\$56,666</u>

NOTES TO FINANCIAL STATEMENTS DECEMBER 31, 1981

1. Significant Accounting Policies

- Inventory**
Inventory is stated at the lower of cost and net realizable value.
- Depreciation**
Furniture and equipment purchased subsequent to January 1, 1979 are expensed when acquired. Depreciation is provided on the straight line basis as follows:

Building	— 40 years
Building improvements	— 5 years
Furniture and equipment	— 10 years
- Revenue Recognition**
Membership fees and subscriptions to the Journal are recognized as revenue in the year to which they apply. Grants are recognized as revenue when received.

2. Fixed Assets

	1981		1980	
	Cost	Accum. Deprec'n	Net	Net
Land	\$ 82,915	\$ —	\$ 82,915	\$ 82,915
Building	1,376,435	203,134	1,173,301	1,207,712
Building improvements	63,358	20,710	42,648	43,730
Furniture and equipment	88,309	54,884	33,425	41,002
	<u>\$1,611,017</u>	<u>\$278,728</u>	<u>\$1,332,289</u>	<u>\$1,375,359</u>

3. Long Term Debt

	1981	1980
Mortgage	\$454,094	\$459,729
Current portion	6,000	6,000
	<u>\$448,094</u>	<u>\$453,729</u>

The mortgage is renewable annually and currently bears interest at 15.25% per annum.

THE GRIEVE MEMORIAL LECTURESHIP FUND

STATEMENT OF REVENUE AND EXPENSE AND SURPLUS FOR THE YEAR ENDED DECEMBER 31, 1981

	1981	1980
Revenue		
Interest	\$ 399	\$ 305
Expense		
Grant to the Orthodontic section of the Canadian Dental Association	700	300
Excess of revenue over expense (Expense over revenue) for the year	<u>(301)</u>	<u>5</u>
Surplus — beginning of year	6,070	6,065
Surplus end of year	<u>\$5,769</u>	<u>\$6,070</u>

**APPROVED BY THE CDA BOARD OF GOVERNORS
MARCH 1982**

Réunion provisoire des gouverneurs — Faits saillants

Le rapport qui suit a été préparé par M. Hubert Drouin, directeur général, et donne les faits saillants de la réunion provisoire du Bureau des gouverneurs qui a eu lieu les 19 et 20 mars à Ottawa.

Les points les plus importants de la réunion ont porté sur l'adoption de deux énoncés de principe sur les services et l'hygiène dentaires.

LA RÉMUNÉRATION DES SERVICES DENTAIRES

L'Association dentaire canadienne reconnaît la valeur des services rendus par ses membres et préconise le mode de rémunération à l'acte comme étant le seul qui soit équitable pour toutes les parties intéressées.

La rémunération à l'acte permet au patient de choisir son dentiste et exige du patient qu'il participe au choix du traitement qui convient, selon les circonstances, à ses besoins.

Comme les autres modes de rémunération des services dentaires, tels les circuits fermés et la rémunération par tête, ou capitation, privent le patient ou le dentiste de certaines libertés auxquels ils ont droit, l'ADC s'oppose à ces modes d'accès aux services et de rémunération.

L'ADC s'engage à faire connaître son point de vue et ses motifs aux administrateurs des régimes de soins dentaires, aux acheteurs de ces régimes et à la population en général, de façon à ce que les résidents du Canada aient toujours accès aux meilleurs moyens possibles d'obtenir des soins dentaires de qualité.

L'HYGIÈNE DENTAIRE

L'hygiéniste dentaire a été créé par la profession de la médecine dentaire pour rendre des services d'hygiène au patient, par voie de délégation et sous la surveillance du dentiste. Les services d'hygiène dentaire occupent une part importante dans l'ensemble des

soins buccaux offerts au patient et font partie du plan de traitement que le dentiste met au point à son intention. Ils doivent donc être dispensés sous surveillance appropriée du dentiste et compte tenu de l'ensemble des besoins du patient en soins dentaires. Le dentiste est juridiquement responsable de tous les soins dentaires dispensés au patient et répond professionnellement des services rendus par l'hygiéniste dentaire.

Les régimes d'enseignement et d'autorisation partent du principe que l'hygiéniste dentaire a un statut d'auxiliaire. Sa formation l'oriente vers l'exercice de certaines fonctions d'hygiène dentaire sous la surveillance du dentiste et cette relation a toujours été maintenue tant dans l'enseignement que dans les régimes d'autorisation appliqués par les provinces. Les normes actuelles d'agrément renforcent cette responsabilité et les programmes de formation en hygiène dentaire préparent le candidat à assumer avec compétence des fonctions qui lui sont déléguées à titre d'hygiéniste dentaire autorisé.

La profession de la médecine dentaire a l'obligation d'offrir au patient un programme global de santé buccale et en reconnaît l'importance. Le diagnostic, les services de prévention, les soins de restauration et d'entretien de la santé sont autant d'éléments d'un programme intégré de soins dentaires qu'on ne peut pas fragmenter.

En travaillant ensemble, les dentistes et les hygiénistes dentaires ont, depuis plusieurs décennies, amélioré grandement les services de thérapie et de prévention dentaires offerts à la population canadienne. Il est essentiel que la profession de la médecine dentaire, les organismes provinciaux de réglementation et le corps des hygiénistes dentaires joignent leurs efforts pour accroître les services dentaires et en étendre l'accès, ainsi que pour

maintenir l'excellence de la pratique et de la formation dans le domaine.

RAPPORTS FINANCIERS

Les rapports de l'exercice financier se terminant le 31 décembre 1981 ont été adoptés. L'Association a enregistré un excédent de 461 953 \$, qui comble le déficit encouru il y a deux ans et la place en bonne situation financière. L'état financier paraîtra dans d'autres colonnes du présent numéro.

LES MEMBRES À VIE

Tout membre de l'ADC qui exerce la profession depuis 40 ans ou a atteint l'âge de 65 ans peut devenir membre à vie de l'Association. Ceux qui sont admissibles à cette catégorie de membres sont encouragés à poser leur candidature auprès du Conseil exécutif. Les demandes reçues au cours de l'année prendront effet l'année suivante.

LE CDSPI

Le Bureau des gouverneurs a apporté certaines modifications au CDSPI afin d'améliorer encore les régimes d'assurance offerts aux membres. Chacun est prié de bien les examiner. Les voici.

i) Incapacité à long terme portée à l'âge de 70 ans

CDSPI Ltée étend sa couverture jusqu'à l'âge de 70 ans selon les modalités suivantes:

- la couverture peut être maintenue (renouvelée) annuellement jusqu'à l'âge de 69 ans sur une base d'élimination de 31 jours;
- la couverture maximale est celle fixée pour incapacité à long terme à ce moment-là (actuellement, elle est de 4 000 \$);
- l'avantage vaut pour une période maximale de deux ans;
- la couverture s'applique à l'incapacité totale seulement;

la prime est de 38,96 \$/100 de couverture (40,04 \$/100 avec COLA).

i) Versement comptant à la mort

Les bénéficiaires peuvent maintenant recevoir, sur avis de décès, une aide financière immédiate au décès d'un détenteur d'une police d'assurance-vie. La somme versée représente 10 p. 100 du montant de la police, jusqu'à un maximum de 5 000 \$.

ii) Règlement comptant de bonne foi/ Assurance faute professionnelle

La clause portant sur la "présomption de responsabilité" est ainsi modifiée:

"L'assuré ne prendra à ses frais ni ne versera *volontairement* de paiement, n'assumera aucune obligation ni n'encourra aucune dépense autre que pour les premiers soins aux autres au moment de l'accident. *Toutefois*, les activités menées sous les auspices de tout comité de grief officiel sont permises sans préjudice à la présente assurance."

iii) Autres modifications

Le 1^{er} janvier, il y a eu une hausse de 10 p. 100 de la couverture des polices d'assurance-vie et une baisse de 10 p. 100 de la prime; le 1^{er} juillet 1982, il y aura une hausse de 10 p. 100 de l'assurance du matériel de bureau.

LE CONSEIL DES STATUTS ET RÈGLEMENTS

Les gouverneurs ont apporté des modifications aux règlements concernant l'organisation du conseil des services de santé et du conseil de l'éducation, dont les membres doivent maintenant faire partie de l'ADC. L'Association a cependant informé les groupes auxiliaires que la participation de l'Association canadienne des hygiénistes dentaires et de l'Association des infirmiers et infirmières dentaires est non seulement souhaitable

mais aussi continuera. L'ADC a assuré les deux organismes de son intention de maintenir les bonnes relations qui existent depuis tant d'années.

LE CONSEIL DES MATÉRIAUX ET APPAREILS DENTAIRES

Le Conseil des matériaux et appareils dentaires a discuté, avec l'Association canadienne de normalisation, la possibilité de mettre sur pied un programme de certification des produits dentaires. Les gouverneurs ont approuvé ces discussions et le programme sera élaboré au cours des prochains mois.

LE CONSEIL DES SERVICES HOSPITALIERS

Les catégories d'agrément suivantes ont été approuvées.

i) Approbation provisoire

Sur la foi d'une visite des lieux et du prospectus préparé par l'institution, l'approbation provisoire est accordée à l'institution dont le programme d'enseignement présente des faiblesses ou des déficiences importantes dans au moins une matière de base. On considère que les déficiences ou les faiblesses sont telles que l'Institution, ou du moins le programme, perdra l'agrément si on n'y apporte pas les corrections souhaitées. L'institution doit démontrer qu'elle a fait des progrès substantiels au cours de l'année.

ii) Approbation conditionnelle

Sur la foi d'une visite des lieux et du prospectus préparé par l'institution, l'approbation conditionnelle est accordée à l'institution dont le programme d'enseignement présente des faiblesses ou des déficiences particulières dans au moins une des matières. On considère que les déficiences ou les faiblesses peuvent être corrigées en une année. L'institution, ou le programme qui reçoit l'agrément condi-

tionnel doit présenter un rapport à la fin de l'année.

iii) Approbation entière

Sur la foi d'une visite des lieux et du prospectus préparé par l'institution, l'approbation entière est accordée à l'institution dont le programme satisfait aux exigences minimales du Conseil des services hospitaliers, ou les dépasse. L'agrément de cette catégorie dit expressément que le programme n'a aucune déficience ni faiblesse sérieuse, mais le rapport d'appréciation contient ordinairement des recommandations ou suggestions pour améliorer le programme. Cette approbation est valable pour trois (3) ans.

Le Bureau des gouverneurs a accepté les rapports d'un certain nombre de comités, entre autres, le comité des questions fiscales qui a entrepris, depuis plusieurs mois, un grand nombre de démarches auprès du gouvernement fédéral. Un comité conjoint a été créé avec le Barreau canadien, l'Association médicale du Canada et l'Institut canadien des comptables agréés pour mettre au point de nouveaux moyens d'améliorer les régimes d'épargne-retraite avant impôt.

Plusieurs organismes, tels le conseil national d'examen des dentistes, l'Association des facultés canadiennes de médecine dentaire, le Collège royal des dentistes du Canada et le Fonds canadien pour l'enseignement dentaire, ont assisté à la réunion du Bureau et participé activement aux délibérations des 24 gouverneurs qui représentent les membres de l'Association. Il nous fait donc plaisir de vous présenter, une fois de plus, la liste de toutes ces personnes, de façon à ce que vous sachiez qui vous représente au cas où vous aimeriez faire connaître vos vues sur les affaires de l'Association.

Hubert Drouin,
Directeur général,
Secrétaire du Bureau des gouverneurs

Les Actualités

Le rapport financier

Nous avons vérifié le bilan de l'Association Dentaire Canadienne au 31 décembre 1981 ainsi que l'état des résultats et du surplus, les états des résultats et du surplus des fonds en fiducie pour la bibliothèque et du fonds "Grieve Memorial Lectureship" et l'état de l'évolution de la situation financière de l'exercice terminé à cette date. Notre vérification a été effectuée

conformément aux normes de vérification généralement reconnues, et a comporté par conséquent les sondages et autres procédés que nous avons jugés nécessaires dans les circonstances.

À notre avis, ces états financiers présentent fidèlement la situation financière de l'Association au 31 décembre 1981 ainsi que les résultats de son exploitation et l'évolution de sa

situation financière pour l'exercice terminé à cette date selon les principes comptables généralement reconnus, appliqués de la même manière qu'au cours de l'exercice précédent.

Ottawa, Ontario,
le 21 janvier, 1982

BILAN AU 31 DÉCEMBRE 1981

ACTIFS

Actif à court terme	1981	1980
Encaisse	\$ 545,764	\$ 91,937
Certificats de dépôt	200,000	150,000
Comptes à recevoir	66,591	101,795
Inventaire (note 1)	45,169	31,973
Frais payés d'avance	25,025	17,173
	<u>882,549</u>	<u>392,878</u>
Actif Immobilisé (notes 1 et 2)	1,332,289	1,375,359
	<u>2,214,838</u>	<u>1,768,237</u>

ACTIFS DU FONDS EN FIDUCIE

Encaisse	58,380	53,507
Bonds et certificat de dépôt	5,343	5,343
Somme à recevoir de l'Association Dentaire Canadienne	—	847
Livres de la bibliothèque et mobilier (à la valeur nominale)	1	3,339
	<u>63,724</u>	<u>63,036</u>
	<u>\$2,278,562</u>	<u>\$1,831,273</u>

PASSIFS

Passif à court terme		
Comptes à payer	\$ 50,420	\$ 73,255
Revenu reporté	588,409	574,444
Somme à payer aux fonds en fiducie	—	847
Partie courante de la dette à long terme	6,000	6,000
	<u>644,829</u>	<u>654,546</u>
Dette à long terme (note 3)	448,094	453,729

SURPLUS

Surplus	1,121,915	659,962
	<u>2,214,838</u>	<u>1,768,237</u>

PASSIFS DU FONDS EN FIDUCIE

Comptes à payer	500	300
Fonds en fiducie pour la bibliothèque	57,455	56,666
Le fonds "Grieve Memorial Lectureship"	5,769	6,070
	<u>63,724</u>	<u>63,036</u>
	<u>\$2,278,562</u>	<u>\$1,831,273</u>

ÉTAT DES RÉSULTATS ET DU SURPLUS POUR L'EXERCICE SE TERMINANT

LE 31 DÉCEMBRE 1981

	1981	1980	1980
	Budget	Réel	Réel
Revenus			
Cotisations (annexe A)	\$1,766,419	\$1,781,072	\$1,237,806
Dons	36,500	45,185	44,326
Journal (annexe C)	337,700	315,312	285,120
Publications	30,000	42,331	40,594
Intérêt	25,000	104,902	19,754
Location	106,961	112,383	107,021
Autre (annexe B)	18,000	61,288	28,403
	2,320,580	2,462,473	1,763,024
Dépenses			
Honoraires et indemnités quotidiennes	143,250	168,998	155,145
Salaires et bénéfices	448,350	458,949	408,764
Frais généraux et administratifs (annexe D)	283,700	296,614	245,569
Conférences	29,000	48,178	30,946
Journal (annexe C)	396,550	376,993	334,594
Autres publications (annexe E)	57,000	51,813	42,489
Publicité institutionnelle	15,000	—	—
Frais de voyage et réunions (annexe F)	227,600	290,782	231,294
Gestion d'immeubles	215,000	225,697	194,717
Le mois de la santé dentaire	30,000	29,028	24,510
Les visites d'agrément	25,700	15,009	24,275
Le programme du test d'aptitudes dentaires	34,400	38,459	25,487
	1,905,550	2,000,520	1,717,790
Excédant des revenus sur les dépenses pour l'exercice	415,030	461,953	45,234
Surplus au début de l'exercice	659,962	659,962	614,728
Surplus à la fin de l'exercice	\$1,074,992	\$1,121,915	\$ 659,962

**ÉTAT DE L'ÉVOLUTION DE
LA SITUATION FINANCIÈRE POUR L'EXERCICE
SE TERMINANT LE 31 DÉCEMBRE 1981**

	1981	1980
Provenance des fonds		
Opérations		
Excédent des revenus sur les dépenses pour l'exercice	\$461,953	\$ 45,234
Item n'impliquant aucune sortie — de fonds — amortissement	57,296	44,688
	<u>519,249</u>	<u>89,922</u>
Utilisation des fonds		
Acquisition d'actifs immobilisés	14,226	35,627
Remboursement de la dette à long terme	5,635	5,626
	<u>19,861</u>	<u>41,253</u>
Argumentation (Diminution) du fonds de roulement	499,388	48,669
Fonds de roulement (déficitaire) au début de l'exercice	(261,668)	(310,337)
Fonds de roulement (Déficitaire) — à la fin de l'exercice	<u>\$237,720</u>	<u>(\$261,668)</u>

FONDS EN FIDUCIE POUR LA BIBLIOTHÈQUE

**ÉTATS DES RÉSULTATS ET DU SURPLUS
ÉTAT DES RÉSULTATS ET DES SURPLUS
POUR L'EXERCICE SE TERMINANT
LE 31 DÉCEMBRE 1981**

	1981	1980
Revenus		
Intérêts	\$ 9,648	\$ 4,760
Dépenses		
Reliure	67	164
Amortissement des livres et du mobilier	4,965	774
Abonnements	524	692
Fournitures et services	3,303	—
	<u>8,859</u>	<u>1,630</u>
Excédent des revenus sur les dépenses pour l'exercice	789	3,130
Surplus au début de l'exercice	56,666	53,536
Surplus à la fin de l'exercice	<u>\$57,455</u>	<u>\$56,666</u>

**APPROUVÉ PAR LE BUREAU DES GOUVERNEURS DE L'ADC
MARS 1982**

**NOTES AUX ÉTATS FINANCIERS
POUR L'EXERCICE SE TERMINANT
LE 31 DÉCEMBRE 1981**

1. Principales conventions comptables

- (a) Inventaire
L'inventaire est évalué au plus bas du prix coûtant et de la valeur nette probable de réalisation.
- (b) Amortissement
Le mobilier et l'équipement acheté après le premier janvier 1979 est imputé à la dépense au moment de l'achat.
L'actif immobilisé est amorti selon la méthode linéaire.
- | | |
|-------------------------|----------|
| Immeubles | — 40 ans |
| Améliorations locatives | — 5 ans |
| Mobilier et équipement | — 10 ans |
- (c) Réalisation des revenus
Les revenus de cotisations et d'abonnements sont reconnus dans l'année auxquels ils se rapportent alors que les subventions sont reconnus comme revenus sur une base de caisse.

2. Actif immobilisé

	1981			1980
	Coût	Amort. Accum.	Valeur Nette	Valeur Nette
Terrain	\$ 82,915	\$ —	\$ 82,915	\$ 82,915
Immeubles	1,376,435	203,134	1,173,301	1,207,712
Améliorations locatives	63,358	20,710	42,648	43,730
Mobilier et équipement	88,309	54,884	33,425	41,002
	<u>\$1,611,017</u>	<u>\$278,728</u>	<u>\$1,332,289</u>	<u>\$1,375,359</u>

3. Dette à long terme

	1981	1980
Hypothèque	\$454,094	\$459,729
Partie courante de la dette à long terme	6,000	6,000
	<u>\$448,094</u>	<u>\$453,729</u>

L'hypothèque est renégociable chaque année. Le taux d'intérêt est actuellement de 15,25% par année.

LE FONDS "GRIEVE MEMORIAL LECTURESHIP"

**ÉTATS DES RÉSULTATS ET DU SURPLUS
POUR L'EXERCICE SE TERMINANT
31 DÉCEMBRE 1981**

	1981	1980
Revenus		
Intérêts	\$ 399	\$ 305
Dépenses		
Don à la section des orthodontistes de l'Association Dentaire Canadienne	700	300
Excédant des revenus sur les dépenses (Dépenses sur les revenus) pour l'exercice	(301)	5
Surplus au début de l'exercice	6,070	6,065
Surplus à la fin de l'exercice	<u>\$5,769</u>	<u>\$6,070</u>

Dégâts au cabinet du dentiste : que faire pour être indemnisé ?

Le Régime d'assurance des dentistes du Canada recevra, en 1982, plus de 350 réclamations à la suite de sinistres survenant dans les cabinets de dentiste du pays. Ce nombre augmente d'une année à l'autre, de même que les sommes versées en remboursement. Cette augmentation est attribuable à deux causes :

- l'augmentation du nombre des réclamations;
- l'augmentation des frais de réparation ou de remplacement de l'équipement et des fournitures.

Au CDSPI, on a l'impression que peu de dentistes savent ce qui se passe lors d'un sinistre. Qui prévenir ? Que faire ? Que font les autres pour vous ? Pourquoi l'intervention des ajusteurs ? Quand serai-je payé ? Comment remplacer l'équipement ou les fournitures, si je n'ai pas l'argent en main ? Ce ne sont là que quelques-unes des nombreuses questions qui vous viendront à l'esprit, si vous avez la malchance de subir des dommages ou des pertes attribuables au feu, aux fuites d'eau, au vol ou au vandalisme.

Au cours d'un entretien récent, nous avons posé certaines questions au gérant des réclamations de la société d'assurance *Guardian*. Voici quelques-unes des observations que nous avons recueillies.

Le CDSPI

Selon votre expérience, quel est l'élément principal qui permet d'obtenir rapidement le remboursement d'un sinistre ?

Le gérant

Ce serait si facile, s'il n'y avait qu'un élément à considérer. Malheureusement, presque tous ceux qui réclament une indemnité ignorent les procédures élémentaires qui nous permettraient, à nous la compagnie d'assurances, d'obtenir l'information nécessaire pour verser l'indemnité.

Le CDSPI

Oh ! Oh ! La question n'est donc pas aussi simple. Que doit faire un den-

tiste s'il constate, un beau lundi matin, qu'il y a un pouce d'eau sur le plancher de son cabinet et s'il découvre peu après que l'eau a endommagé l'ordinateur de la banque au rez-de-chaussée ?

Le gérant

D'abord, il doit s'assurer que la soupape d'arrêt de la plomberie est bien fermée.

Deuxièmement, il doit en aviser la propriétaire de l'édifice et essayer de nettoyer la place.

Puis, il téléphone au CDSPI ou à l'ajusteur.

Le CDSPI

Le dentiste a parlé au CDSPI, obtenu le numéro de téléphone de l'ajusteur et joint celui-ci qui est en route pour le rencontrer et inspecter les dégâts. Qu'arrive-t-il alors ? Que fera l'ajusteur ?

Le gérant

L'ajusteur est engagé par la compagnie d'assurances pour recueillir l'information, interroger les témoins, évaluer les dégâts et présenter un rapport complet, y compris l'estimation des frais de réparation ou de remplacement de l'équipement ou des fournitures endommagés. L'ajusteur connaît aussi des gens pour nettoyer la place, sécher les tapis, etc.

Le CDSPI

Cela peut se faire très vite. En quelques heures peut-être, on peut commencer les travaux pour remettre en marche le cabinet du dentiste. Est-ce exact ?

Le gérant

Oui. Tout le monde à intérêt à limiter le plus possible l'inactivité du bureau. Quelques heures, quelques jours tout au plus.

Le CDSPI

L'indemnisation du sinistre peut prendre un certain temps. À quoi attribuer les délais ? Comment le dentiste peut-il les prévenir ?

Le gérant

Il n'y a pas de solution magique au

problème. Si vous me permettez un avis, voici ce que je dirais.

- a) Assurez-vous que vous avez une couverture adéquate, c'est-à-dire informez-vous du coût actuel du remplacement de l'équipement et des fournitures.
- b) Assurez-vous pour 80 p. 100 au moins du coût de remplacement autrement, nous devrons appliquer la clause de co-assurance du contrat. Si vous êtes assuré pour la moitié seulement du coût de remplacement, nous ne paierons, en vertu de cette clause, que la moitié de la réclamation et c'est vous, le dentiste, qui assurez l'autre moitié.
- c) Si votre assurance couvre au moins 80 p. 100 du sinistre, nous paierons alors en entier les frais de réparation ou de remplacement. Il faut présenter des fractures pour prouver que le remplacement a été fait.
- d) Gardez un inventaire de l'équipement, des approvisionnements et veillez à en garder une copie ailleurs que dans votre cabinet. Des photographies de chaque pièce de votre cabinet peuvent aider grandement à établir l'étendue du sinistre.

Le CDSPI

À supposer qu'un dentiste se fasse voler un dactylo électrique, un grande quantité de fournitures, un appareil stéréophonique et divers autres articles, la perte peut s'élever à plusieurs milliers de dollars et il n'est pas toujours facile de trouver l'argent nécessaire pour les remplacer. Qu'arrive-t-il alors ?

Le gérant

Aucun problème. Si nous connaissons la situation, nous émettons un chèque au dentiste et au fournisseur conjointement, ou nous prenons les mesures pour faire livrer l'équipement chez le dentiste et payer directement le fournisseur.

Le CDSPI

Si le dentiste décide de ne pas rem-

lancer l'équipement qu'il a perdu — par exemple, les voleurs lui ont pris un appareil stéréo qui lui a coûté 500 \$ il y a un an -, qu'arrive-t-il?

Le gérant

Si le dentiste décide de ne pas remplacer son stéréo, nous réglerons pour une somme qui tiendra en ligne de compte la dépréciation de l'appareil et nous lui enverrons un chèque à ce montant.

Le CDSPI

Vous venez de nous donner des renseignements élémentaires mais fort utiles. Aimerez-vous, en conclusion, nous faire quelques observations sur les façons de prévenir les pertes?

Le gérant

C'est une question dont on pourrait parler pendant des heures, mais je dirais ceci : Le dentiste peut faire certaines petites choses pour prévenir les pertes. Par exemple :

1. Connaître son équipement, surtout les raccords de plomberie au fauteuil. Quel genre de raccords est-ce? Des raccords en plastique qu'ont met en place par une simple pression ou des raccords à collet qui sont préférables?
2. Ne laissez pas traîner les objets de valeur. Il faut garder les montres, les bagues et les autres bijoux sous clé quand on ne les porte pas.
3. Veillez à ce que les patients puissent laisser leurs effets personnels, tels les manteaux, dans un endroit sûr. Tant de chose disparaissent l'hiver si le porte-manteau est placé près d'une porte — c'est s'attirer des ennuis.
4. Posez de bonnes serrures à toutes les portes. Un système d'alarme peut aussi prévenir le vol, si le cabinet est situé au rez-de-chaussée et facilement accessible par les fenêtres.

5. Ayez suffisamment d'assurances. Il en coûte beaucoup moins cher de payer la prime que d'assumer les pertes encourues.

6. Fermez toujours la soupape d'eau de votre équipement à la fin de la journée, parce que la pression augmente invariablement au cours de la nuit.

Le CDSPI

Je vous remercie. Pourrions-nous continuer cet entretien une autre fois et, peut-être, examiner d'autres aspects de l'assurance générale? Je songe notamment à l'assurance du revenu.

Le gérant

Certainement, n'importe quand. L'assurance-revenu est un excellent sujet. Je dirais même que c'est une question qui est, en général, plus obscure que les problèmes dus au vol ou à l'incendie.

VOUS QUI ÊTES UNE PERSONNE CULTIVÉE...

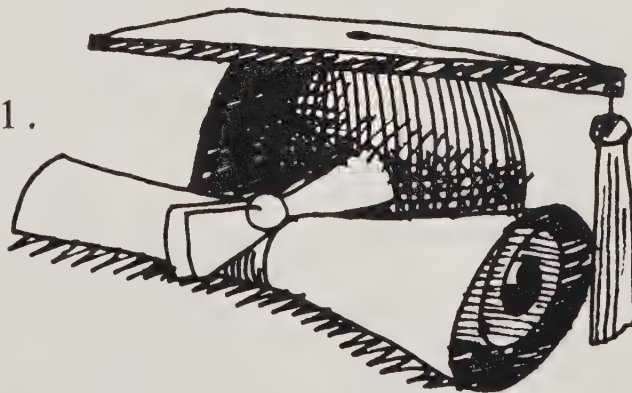
Fonds canadien pour l'enseignement dentaire

Bureau 205

44 ouest, avenue Eglinton

Toronto, Ontario M4R 1A1.

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Le Fonds canadien pour l'enseignement dentaire
Un véhicule destiné à valoriser les réalisations
et le prestige de la profession.

Les patients drogués — le problème s'amplifie

Il y a quelque temps, le drogué, recourant à la ruse, s'adressait au médecin afin d'obtenir, sous prétexte de problèmes de santé, des ordonnances pour des drogues ou des stupéfiants dont la distribution est contrôlée.

Maintenant, le problème a atteint les dentistes.

Cet abus constitue "un problème sérieux," déclarait récemment M. Jacques G. LeCavalier, directeur du Bureau des drogues dangereuses, à la Direction générale de la protection de la santé, à Santé et Bien-être social Canada. M. LeCavalier émettait alors une mise en garde aux internes dentaires.

Grâce à la surveillance entreprise par le Bureau des drogues dangereuses, la pression exercée sur la profession médicale semble s'être quelque peu relâchée.

"Depuis le début de l'année 1981, nous avons noté que le problème est devenu plus fréquent chez les dentistes," faisait observer Mme. Denise Boucher, chef de la Division de la surveillance intérieure. "Quand le problème est endigué (pour la profession médicale), il semble ressurgir ailleurs." Il se pourrait fort bien, de dire Mme Boucher, que certains des mêmes drogués se tournent maintenant vers les dentistes, puisque les médecins font l'objet d'une surveillance plus intense.

"En surveillant la distribution des stupéfiants et des drogues contrôlées, nous observons que ces drogues sont prescrites plus souvent par les dentistes," a noté M. LeCavalier.

"Souvent, répondant à une enquête faite par le Ministère, le dentiste dira que la personne pour qui les drogues ont été prescrites a visité son bureau en période de pointe, se plaignant de douleurs. Il est évident que, fréquemment, le dentiste émet une ordonnance sans avoir examiné le patient au préalable. Les habituels consomma-

teurs de drogues sont très habiles à simuler des symptômes afin d'obtenir des stupéfiants ou des drogues contrôlées. De plus, certains ont découvert qu'ils pouvaient profiter de l'indifférence du dentiste. À plusieurs reprises, a remarqué M. LeCavalier, "nous avons découvert que ces personnes cherchent seulement à trouver des drogues pour satisfaire leur dépendance ou pour les revendre à profit."

De vieilles astuces

Dans certains cas, le dentiste a été dupé de manière à prescrire des stupéfiants plus puissants que d'habitude. Le drogué, recourant à une vieille astuce, met le praticien en concurrence avec ses collègues: rendant visite au dentiste au moment où il est très occupé, il réclame un remède d'urgence, affirmant que tel autre dentiste (ou médecin) lui a déjà prescrit une drogue qui "faisait des miracles." Trop occupé, le dentiste n'a pas le temps de vérifier auprès de son collègue si la demande est conforme à la vérité. Le rusé "patient" prendra rendez-vous pour un examen et un traitement peut-être, mais il aura garde de s'y présenter.

C'est pourquoi, prévient M. LeCavalier, "le dentiste doit se montrer extrêmement prudent lorsqu'un inconnu se présente en lui demandant un remède spécifique ou une ordonnance pour une drogue.

"Nous aimerions également souligner," de poursuivre M. LeCavalier, "que la Loi sur les stupéfiants, tout comme le règlement touchant les drogues contrôlées, indique que le praticien peut administrer, prescrire, donner, vendre ou fournir un stupéfiant ou une drogue contrôlée à une personne ou à un animal;

- a) seulement si la personne ou l'animal est un patient placé sous ses soins professionnels; et
- b) si le stupéfiant ou la drogue contrôlée est exigé suivant la maladie

pour laquelle la personne ou l'animal reçoit des soins.

"En ce qui concerne les dentistes la prescription de ces drogues doit par conséquent être limitée aux maladies dentaires. Nous sommes certains," a conclu M. LeCavalier, "que nous pouvons compter sur la collaboration des dentistes afin de prévenir les abus."

Dans l'Ouest

Le problème ne se manifeste pas également dans toutes les parties du Canada, a indiqué Mme Boucher. "Il prévaut davantage dans les Prairies — l'Alberta, la Saskatchewan et le Manitoba. Et maintenant, il s'étend au Québec. Nous pensons donner l'alerte avant que la situation n'empire."

Le bureau des drogues dangereuses découvre la plupart des abus commis en vérifiant les dossiers des ordonnances chez les pharmaciens et autres marchands de drogues.

Le praticien qui semble avoir prescrit des quantités inhabituelles de stupéfiants et de drogues contrôlées est alors mis en garde et invité à se montrer "plus prudent avant de donner une ordonnance," a dit Mme Boucher. "Le dentiste doit pouvoir justifier ce qu'il fait. Sa responsabilité est entière."

Par ailleurs, les inspecteurs obtiennent parfois des indices touchant les abus soit des membres des familles en cause, soit d'autres professionnels soit de la police. Il arrive qu'un agent appréhende un drogué qui laisse échapper: "Va voir le Dr Untel, il te donnera une ordonnance."

Quand le problème a commencé à se manifester au début de l'année 1981, le Bureau des drogues dangereuses est intervenu pour appliquer une mesure de contrôle en reclassant certains produits contenant de l'oxycodone et de l'hydrocodone comme stupéfiants purs. Ces produits peuvent être prescrits sur ordonnance seulement, et non plus par téléphone

Grande amélioration de la santé dentaire en Colombie-Britannique

Une étude, menée en 1980 par la Division des services de la santé dentaire au Ministère de la santé de la Colombie-Britannique, révèle que la santé dentaire des enfants de cette province s'est grandement améliorée au cours des 20 dernières années.

Le résultat le plus spectaculaire porte la diminution du nombre des extractions. L'étude, qui a été publiée récemment, indique par exemple que la moyenne des extractions chez les adolescents de 15 ans est passée de 1,1 pour la période de 1958 à 1960, à 0,6 pour la période de 1967 à 1974, puis à 0,1 en 1980.

L'étendue des maladies dentaires mesurée en termes de caries, de perte des dents et d'obturations, a diminué de 44 p. 100, passant de 12,4 à 10,0, puis à 6,9, pour les périodes mentionnées ci-dessus.

Le rapport conclut que le nombre des cas non traités "semble bien en deçà de la capacité de la profession dentaire actuelle dans toutes les régions de la province".

L'étude a porté sur 8 268 enfants de 5, 9, 13 et 15 ans, et on a constaté que la majorité d'entre eux recevait les soins dentaires appropriés.

L'étude montre que le degré d'hygiène buccale s'améliore en général, et de façon certaine avec l'âge. Les données indiquent qu'il y a un rapport direct entre le degré d'hygiène buccale et l'importance de la périodontite dont l'incidence de cas graves est faible, selon le rapport.

L'indice de quantité

On a eu recours à l'indice de quantité pour regrouper les enfants selon l'importance de leurs besoins en traitements orthodontiques. C'était la première fois qu'une étude provinciale sur la santé dentaire suivait cette méthode dont voici les principaux résultats. Apparemment, trois ou quatre pour cent des enfants de la province

ont des malocclusions qui présentent de sérieux troubles physiques. Cinq pour cent ont des malocclusions qu'il serait "fortement souhaitable de corriger". Treize pour cent des enfants qui ont fait l'objet de l'étude reçoivent déjà des traitements en orthodontie. Le rapport note cependant que ce ne sont peut-être pas ceux qui souffrent des malocclusions les plus graves.

L'étude attribue les améliorations constatées dans le domaine de la santé dentaire à divers facteurs, tels l'amélioration des programmes de santé publique, le souci de prévention d'une profession dentaire plus forte, une plus grande sensibilisation des parents et des enfants aux moyens de prévenir la maladie, l'utilisation de dentifrices au fluorure et la fluoration de l'eau potable.

Si l'on considère les traitements de restauration qui ont été complétés, l'étude indique que leur importance augmente avec les groupes d'âge. Pour l'ensemble de la province, l'importance des soins atteint un niveau de 66,5 chez les enfants de neuf ans, de 77,4 chez ceux de 13 ans et de 81,4 chez les jeunes de 15 ans. Les analystes notent:

Moins de perte des dents

Les analystes soulignent que la partie "la plus encourageante" de l'étude porte sur la perte des dents. Dans les études antérieures, on avait constaté, chez 100 enfants de 9 ans, la perte de 20 dents permanentes en moyenne. En 1980, on a constaté qu'il leur en manquait une seulement. De la même façon, entre 1968 et 1974, les études ont fait voir la perte de 50 dents permanentes par 100 enfants de 13 ans, alors que l'étude de 1980 en a dénombré huit. Chez le groupe des 15 ans, le nombre de dents manquantes est passé de 80 à 14.

Le pourcentage des enfants n'ayant pas besoin de soins dentaires a augmenté d'une étude à l'autre pour cha-

que groupe d'âge. Pour la période de 1958 à 1960, 35,6 p. 100 des enfants de cinq ans ne présentaient aucune carie; le pourcentage est monté à 63,16 p. 100 en 1980. Pour les mêmes périodes de temps, le pourcentage des jeunes de 15 ans n'ayant pas besoin de traitements est passé de 15,0 p. 100 à 57,93 p. 100.

L'étude avait pour buts:

- d'évaluer la santé dentaire de groupes précis d'enfants en estimant la prévalence de la carie, de la périodontite, des malocclusions, des anomalies dento-faciales et d'autres lésions pathologiques;
- d'établir les variances de la prévalence des maladies et des anomalies dentaires d'une région à l'autre;
- d'établir la mesure dans laquelle les services dentaires actuels répondent aux besoins et d'évaluer les besoins non comblés chez la population enfantine;
- d'établir une base de comparaison qui servira à évaluer, à l'avenir, les services de soins curatifs et préventifs, financés à même les deniers en vertu de programmes comme le régime de soins dentaire de Colombie-Britannique;
- de répondre aux besoins de recherche en dentisterie du Ministère de la santé;
- d'établir, dans la mesure du possible, les rapports avec d'autres études provinciales sur la santé.

L'étude a été menée au cours de l'année qui a précédé l'entrée en vigueur du régime de soins dentaires de la Colombie-Britannique, le 1^{er} janvier 1981.

Elle a été dirigée par le Dr H. Jack Hann, consultant régional en dentisterie pour l'Île de Vancouver et chargé de mission, qui a préparé la majeure partie du rapport avec la participation du Dr Douglas Yeo, doyen associé de la faculté de dentisterie à l'Université de Colombie-Britannique.

10 manières d'améliorer vos assurances ... en payant moins cher.

Il est vite fait de payer \$ 2 000 ou plus de prime d'assurance par an ... sans pour autant être bien protégé. Si vous voulez économiser tout en étant mieux protégé, les suggestions ci-dessous pourront vous être utiles.

1. De nombreux assureurs préfèrent vendre des assurances vie et invalidité à primes constantes, c'est-à-dire qui n'augmentent pas au fur et à mesure que vous vieillissez. En fait, vous payez plus aujourd'hui pour pouvoir payer moins demain. En période de forte inflation, ce système avantage l'assureur. Il est habituellement plus économique de souscrire un contrat à prime croissante, c'est-à-dire dont la prime augmente au fur et à mesure que vous vieillissez. Ce type de contrat vous donne toujours une assurance moins chère au cours des premières années, ce qui vous permet d'affecter la différence à la réduction de vos dettes ou à des placements.
2. Pensez à payer vos primes trimestriellement plutôt qu'annuellement. Avec les taux d'intérêt actuels, conservez votre argent en banque le plus longtemps possible. Avec le régime d'assurance des dentistes du Canada, la prime est la même, que vous la payez tous les trois mois ou tous les ans.
3. Plus la franchise est faible plus la prime est élevée. Sur l'assurance du contenu par exemple, vous pouvez économiser entre 10 et 15 % en faisant passer votre franchise de \$ 250 à \$ 500. Le même principe s'applique à vos assurances Habitation et Automobile.
4. Conservez des listes à jour du contenu de votre domicile et de votre bureau, sans quoi vous pourriez oublier certaines choses dans votre demande d'indemnité après un gros sinistre.
5. Les indemnités d'invalidité (accident ou maladie) ne sont versées qu'après une certaine période d'attente. Plus celle-ci est courte plus la prime est élevée. Envisagez la possibilité de passer à une période d'attente plus longue et d'affecter les économies ainsi réalisées à des placements ou à une augmentation de vos garanties de base.
6. Les assureurs se font tous concurrence et les prix varient d'un contrat à l'autre et d'une compagnie à l'autre. Quelques comparaisons vous permettront de réaliser des économies appréciables. Les consultants du CDSPI peuvent vous aider à mieux voir les différences existant entre deux contrats et donc à mieux comparer les prix.
7. Les assurances vie qui combinent un élément "épargne" et un élément "assurance" sont souvent chères, peu rentables et plus difficiles à comprendre. Dans la plupart des cas, il est plus avantageux de souscrire une assurance temporaire et de mettre sur pied, en parallèle, un programme d'épargne et de placement.
8. L'assurance la plus chère de toutes sera toujours celle dont les garanties se révéleront insuffisantes à la suite d'un sinistre grave. Veillez donc à ce que vos garanties soient à jour et faites couvrir vos biens pour un montant correspondant à ce que vous devriez payer pour les remplacer à l'heure actuelle. Aux renouvellements, n'oubliez pas d'ajouter la valeur de tous biens acquis en cours d'année.
9. Même avec de bonnes garanties, un sinistre vous fera perdre du temps et de l'argent. Quelques mesures simples vous aideront à prévenir les sinistres : ayez de bonnes serrures, de bonnes portes, de bonnes fenêtres ; vérifiez toujours avant de partir que l'arrivée d'eau de votre fauteuil d'opération est coupée.
10. Ne vous assurez pas contre les petits sinistres que vous pouvez supporter. Assurez-vous contre les gros sinistres qui pourraient vous mettre en difficulté.

L'une des principales caractéristiques du régime d'assurance des dentistes du Canada réside dans l'aide et les renseignements offerts aux membres de la profession. Nos consultants étudieront les propositions qui pourront vous être faites ou pourront vous aider à analyser vos besoins.



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En bref —

La firme Hoffman-LaRoche Limitée, de Vaudreuil (Québec) a fait une mise en garde contre le produit nommé "Rocaltrol". Récemment introduit sur le marché canadien, ce produit n'est pas destiné à servir comme supplément de la vitamine D "pour les simples cas d'affection dentaire."

Consommé sans précautions médicales appropriées, ce produit peut être fatal pour le patient, déclare le Dr Sheila McKenzie, gérante des services professionnels de la division pharmaceutique de la compagnie.

Dans une lettre adressée à l'ADC, le Dr McKenzie affirme que le Rocaltrol (calciférol) est un métabolite actif très puissant de la vitamine D. On le prescrit pour traiter l'hypocalcémie ou l'ostéodystrophie chez les patients souffrant d'insuffisance rénale chronique qui sont soumis à une dialyse, ainsi que l'hypocalcémie et ses manifestations cliniques associées à l'hypoparathyroïdie post-opératoire, à l'hypoparathyroïdie idiopathique et à la pseudo-hypoparathyroïdie, ou dans les cas de rachitisme résistant à la vitamine D.

Il faut disposer d'un équipement de laboratoire adéquat pour surveiller les réactions chimiques qui se produisent dans le sang et dans l'urine des patients traités pour ces maladies. Pendant le traitement, l'hypocalcémie progressive causée par une dose excessive ou par une trop grande absorption peut devenir grave au point d'exiger des soins d'urgence, prévient le Dr McKenzie.

Un nouveau répertoire, énumérant tous les équipements et produits servant à l'administration des soins médicaux — et dentaires — qui sont fabriqués au Canada, risque de décevoir les institutions dentaires.

Publié par le ministre de l'Industrie et du Commerce du Canada en décembre

1981, ce répertoire s'intitule: "Produits d'hygiène fabriqués au Canada" et se limite aux produits de fabrication canadienne. Cependant, comme le Canada compte peu de fabricants de produits dentaires, la liste en est très brève et nullement complète.

Les articles comme les ciments dentaires, les pellicules radiographiques, la soie floche, les fils de suture et les équipements dentaires, sont tous groupés sous une même rubrique. Cependant, justement à cause du nombre limité de fabricants dentaires canadiens, ce répertoire n'est guère utile pour les établissements dentaires.

Cependant, il est sans doute plus pratique pour la profession médicale, puisque plusieurs produits médicaux sont fabriqués au Canada. Le répertoire énumère environ 300 compagnies et 1 500 produits.

Bien que l'École dentaire de l'Université Dalhousie dispose d'installations pour l'enseignement qui sont les plus modernes au Canada, elle bénéficie de peu d'appui pour la recherche de la part du public et des sources privées.

De fait, l'école se place au cinquième ou sixième rang parmi les dix écoles dentaires du Canada sur toute liste de subventions, rapporte le *Mail Star* d'Halifax, citant le Dr Derek Jones, chef de la Division des biomatériaux dentaires et membre du comité qui révisé les demandes de bourses dentaires, lequel fait partie du Conseil de recherches médicales, à l'Université Dalhousie.

Les écoles dentaires se font concurrence et sont en concurrence avec les écoles médicales afin d'obtenir des subventions pour la recherche.

Il va de soi que les écoles médicales sont plus favorisées et offrent un plus grand choix de sujets aux chercheurs.

Le Conseil de recherches médicales, société d'État qui est officiellement chargée d'octroyer des bourses de recherche en médecine et en dentisterie, alloue, pour chaque dollar dont il dispose, 1,5 sous pour la recherche dentaire. Le reste est concédé aux écoles médicales, fait observer le Dr Jones.

De l'avis du Dr Mouton, le meilleur moyen de se nettoyer les dents après les repas est, à part les brosser, de mâcher de la gomme. Recherchiste dentaire, le Dr Mouton habite Québec et fait partie de la Faculté de médecine dentaire de l'Université Laval en tant que microbiologiste et immunologiste.

En mâchant de la gomme, on stimule la production de la salive qui aide à dissoudre le sucre qui adhère aux dents et à éliminer les acides créés par le sucre et les bactéries causant des caries.

Le 31 juillet 1982 est la date limite pour soumettre à Santé et Bien-être social Canada des projets et des demandes de bourses de carrière pour la recherche, si l'on désire se qualifier pour une subvention à compter du 1^{er} avril 1983.

La plupart des demandes de renouvellement doivent être soumises également pour le 31 juillet.

En vertu du Programme national de recherche et de développement en matière de santé, le Ministère de la Santé a pu venir en aide aux chercheurs dans plusieurs domaines visant à atteindre les objectifs nationaux en matière de santé. En médecine dentaire, Murray Hunt de l'Université de Toronto a reçu, en 1977, une bourse de 224 434,61\$ pour faire une étude des effectifs dentaires par rapport à l'état de santé buccale de la population

ontarienne. La Montréalaise Claire Infante-Rivard a obtenu 68 440,29\$ pour étudier la prévalence et l'incidence de la carie, de la malocclusion et des maladies parodontaires chez les enfants d'âge scolaire dans la région de Montréal.

Le Dr George E. Decker vient d'abandonner le poste de rédacteur en chef de l'*ADA News Information*, publication officielle de l'Association dentaire de l'Alberta. Il a également été directeur administratif de l'ADA pendant plusieurs années.

Le président de l'association, le Dr P.J. Kirby, lui a remis une plaque en guise de reconnaissance.

Le Dr Gregory White de Regina a été nommé président du Collège des chirurgiens dentistes de la Saskatchewan pour 1982.

Diplômé de l'Université de l'Alberta, le Dr White pratique à Regina depuis 1962.

Les autres membres élus sont le Dr B.E. White, vice-président, et les Drs W.M. McKechnie, W.P. Reed, G.A. Riekman, J.K. Sutherland et E.W. Zak, membres du Conseil.

Dans le rapport annuel sur le régime d'assurance dentaire de la Saskatchewan pour 1980-1981, on note que le nombre des personnes qui y ont souscrit est élevé, comprenant 129 669 enfants âgés de quatre à quinze ans, soit 83,5 pour cent des enfants admissibles.

La majorité de ces enfants ont reçu des soins complets de la part de dentistes, de thérapeutes et d'assistants dentaires travaillant dans les 505 cliniques établis dans les diverses écoles primaires de la province. Des praticiens privés ont également administrés des soins d'urgence à des enfants par-

ticipant au régime pour une somme s'élevant à 348 000\$.

Les dépenses totales du régime pour l'année 1980-1981 atteignent 10,9 millions de dollars, soit une moyenne de 77,40\$ par enfants inscrit.

Le Dr Anthony Melcher, directeur du groupe affecté à la physiologie parodontaire pour le Conseil de recherches médicales, à la Faculté dentaire de l'Université de Toronto, a accédé à la présidence de l'Association internationale pour la recherche dentaire, lors du congrès annuel tenu à la Nouvelle Orléans, du 18 au 21 mars dernier. À la même occasion, le Dr A.R. Ten Cate, doyen de la Faculté, a été élu vice-président de l'association qui groupe environ 5 000 membres. Il assumera donc la présidence à son tour en 1984.

La Faculté dentaire de l'Université de Toronto détient un record unique: depuis que l'association a été fondée en 1919, quatre de ses membres en ont été ou en seront présidents. En effet, cet honneur a été accordé au Dr A.E. Webster, qui a été le troisième président de l'association, et au Dr George Beagrie qui a assumé le poste en 1977-1978. Outre les Drs Melcher et Ten Cate déjà mentionnés, il convient de noter que le Dr Jack McDonald, président de l'association en 1968-1969, est un ancien étudiant de l'Université de Toronto.

Le 70^e Congrès annuel de la Fédération dentaire internationale se tiendra à Vienne, du 10 au 16 octobre 1982.

Les conférences scientifiques et les séances d'administration de la FDI auront lieu dans les salles d'État du Hofburg de Vienne. Conçu par les comités d'organisation et du programme scientifique de la FDI, le program-

me portera particulièrement sur la dentisterie pour les gens âgés, — l'Assemblée générale des Nations Unies a déclaré 1982 l'année internationale des gens âgés, — établira une comparaison entre les traitements chirurgicaux et non chirurgicaux dans les cas de maladie parodontaire avancée, et étudiera les solutions de rechange pour les alliages à base des métaux nobles.

Conjointement avec le Congrès de la FDI, il y aura une exposition dentaire internationale qui se tiendra à Vienne également.

On peut se procurer des formulaires d'inscription et le programme provisoire du congrès en s'adressant au directeur administratif de la FDI, 64 Wimpole Street, London W1M 8AL, Royaume-Uni, ou au Secrétariat du Congrès de la FDI 1982, Interconvention, C.P. 80 A-1107, Vienne Autriche.

Dans le cadre du 13^e Congrès international du cancer qui aura lieu à Seattle (Washington), du 8 au 15 septembre 1982, le programme scientifique comprendra des discussions et des mises à jour importantes touchant les divers domaines de l'oncologie, y compris la dentisterie.

Des représentants de 95 pays et des experts qui s'occupent de la prévention, du contrôle et du traitement du cancer participeront au congrès qui est placé sous l'égide de l'Union internationale contre le cancer (UICC). On prévoit qu'y assisteront environ 12 000 personnes qui participent à la recherche sur le cancer, posent des diagnostics, donnent des soins permanents aux cancéreux, rééduquent les patients et leurs familles ou s'occupent de diffuser des renseignements sur le cancer.

L'intérêt particulier pour les oncologues dentistes, des programmes

consacrés au rôle grandissant de la dentisterie comme une spécialité de oncologie étudieront le traitement de la néoplasie dans la cavité buccale et comprendront une révision de sujets choisis.

Parmi les cours donnés en éducation permanente, l'un portera sur le cancer de la tête et du cou. On y parlera des aspects dentaires, de la cavité buccale, du larynx, de la chimiothérapie et de la radiothérapie.

Pour obtenir d'autres renseignements sur le programme et des formulaires d'inscription, on s'adressera au: Congress Office, Suite 1800, Fourth and Blanchard Building, Seattle, Washington, 98121, U.S.A.; tél.: (206) 462-2194. Veuillez noter que les réservations d'hôtel faites après le 31 juillet 1982 ne seront pas garanties.

Dernièrement, en Afrique du Sud, des dentistes ont eu un problème de taille à résoudre.

L'éléphant femelle Homly, ancienne pensionnaire du zoo de Bloemfontein, souffrait d'une carie grosse comme un poing d'homme dans l'une de ses normes molaires. Avec assez d'anesthésique pour tuer 70 personnes, 17 dentistes, médecins, vétérinaires et techniciens se sont appliqués à libérer la malheureuse de son mal.

Les dentistes ont dû combler la cavité avec 200\$ d'amalgame. L'opération a duré 90 minutes.

L'hépatite virale B est une maladie redoutable et, lors d'une conférence tenue au siège social de l'Association dentaire américaine, à Chicago, du 14 au 16 avril, on a étudié ses rapports avec la dentisterie.

Patronnée par le Conseil des thérapies dentaires de l'ADA et le Collège dentaire de l'Illinois, la conférence a

réuni 200 invités des écoles dentaires et des sociétés dentaires des États-Unis.

"L'hépatite constitue un problème qui prend toujours plus d'ampleur, surtout pour les professionnels de la santé, tels les dentistes," a observé le secrétaire du Conseil des thérapies dentaires, le Dr Edgar Mitchell.

"Durant cette conférence," a-t-il ajouté, "l'ADA a tenté de renseigner le plus grand nombre possible de représentants des divisions dentaires sur les dangers de cette maladie."

Un des principaux sujets de la conférence a été la récente mise au point d'un vaccin contre l'hépatite virale B qu'on prévoit mettre sur le marché plus tard cette année.

On s'est également penché sur le problème que pose la transmission de l'hépatite, sur les implications légales et éthiques qu'elle a en dentisterie, et sur toutes les connaissances actuelles y ayant trait.

La *Henry J. Kaiser Family Foundation*, de Manlo Park en Californie, a octroyé à l'*American Fund for Dental Health* (le Fonds américain pour la

santé dentaire) une subvention de 150 000\$ répartie sur trois ans, afin de fournir des bourses aux étudiants dentaires des minorités. C'est la deuxième fois que la Fondation Kaiser accorde une telle subvention à l'AFDH.

Le programme de bourses d'études à l'intention des étudiants dentaires des minorités a été lancé en 1968. Depuis, 631 bourses ont été distribuées, totalisant 1,44 million de dollars.

En annonçant la nouvelle, le président de la fondation, le Dr Robert J. Glaser, a déclaré: "Le personnel et l'administration de la fondation reconnaissent que les minorités sont mal représentées en dentisterie. Ils sont heureux de la manière dont les fonds de la première subvention ont été utilisés pour permettre aux étudiants des minorités de poursuivre des études en dentisterie."

Depuis sa création, le programme en faveur des minorités a été financé entièrement par des subventions et d'autres dons alloués spécifiquement par leurs auteurs à cette fin. Les minorités désignées comme étant mal représentées en dentisterie sont les Noirs américains, les autochtones américains, les Américains d'origine mexicaine et les Portoricains.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 avril 1982.

Fonds d'actions ordinaires	\$48.5894
Fonds à revenu fixe	\$27.5881
Fonds garanti	\$23.0555
Fonds de placement	\$10.7737

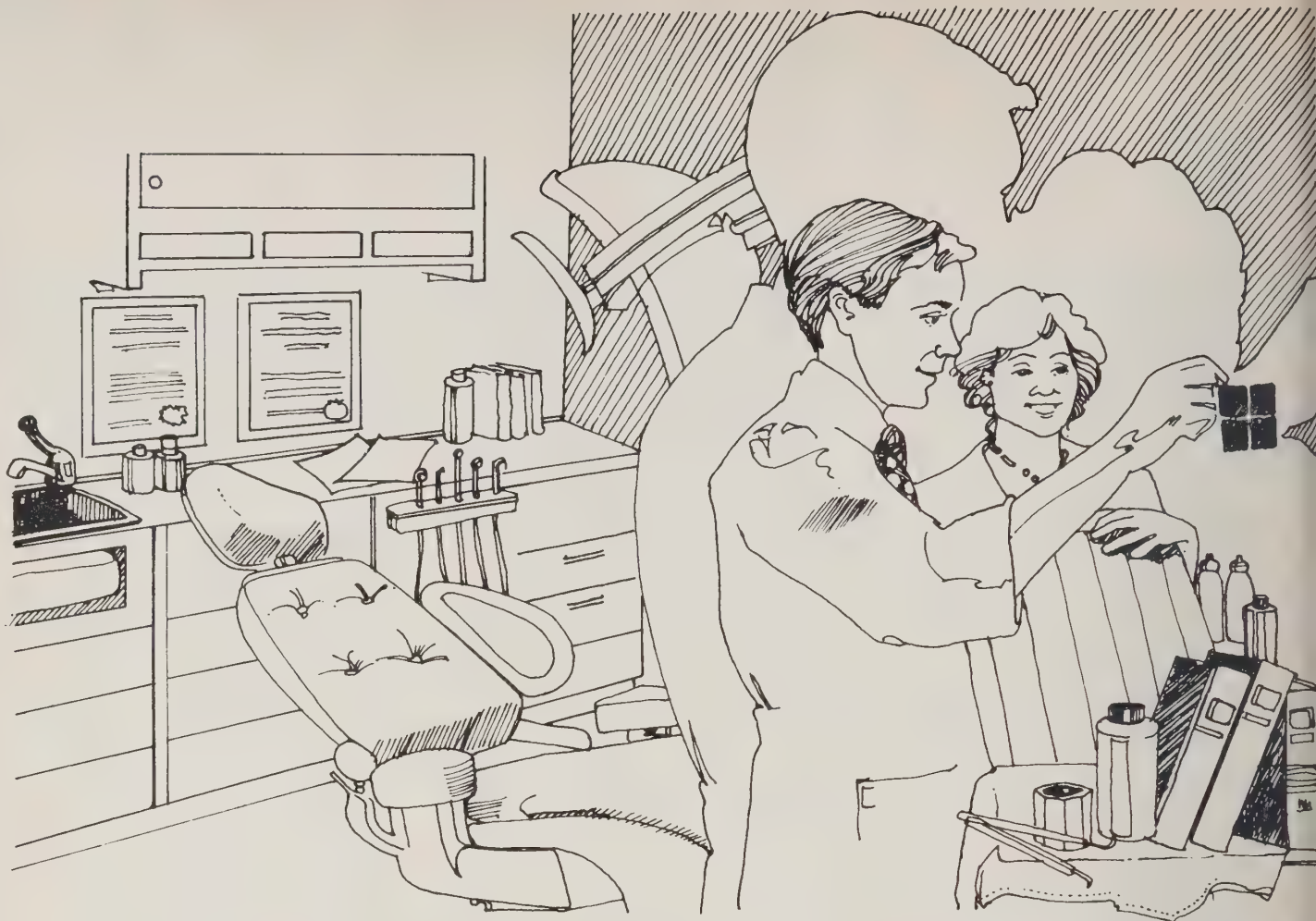
L'avoir total (valeur marchande) du régime s'élevait à \$29,975,216.

Au 31 mars 1982, les chiffres du mois précédent étaient les suivants:

Fonds d'actions ordinaires	\$48.2710
Fonds à revenu fixe	\$27.1051
Fonds garanti équilibré	\$22.7908
	\$11.0596

L'avoir total (valeur marchande) du régime s'élevait à \$29,963,929.

Pour de plus amples renseignements, veuillez écrire à l'adresse suivante: Canadian Dental Service Plans Inc., 2 St. Clair Ave. E., Toronto, Ontario, M4T 2W1, ou appeler le service de renseignements du CDSPI en composant 1-800-268-3792 (961-7117 pour les résidents de Toronto).



Savez-vous que les Forces canadiennes ont un programme de formation de dentistes militaires qui peut subventionner le coût de vos études en art dentaire pour un maximum de 45 mois?

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Une carrière dans les Forces armées canadiennes m'intéresse, j'aimerais recevoir plus de renseignements à ce sujet.

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Essentials of Complete Denture Prosthodontics

Sheldon Winkler, editor

*W.B. Saunders Company,
Philadelphia, London, Toronto
1979.
29 pages.*

This book is another of the many excellent textbooks on complete dentures available today. It developed from the editor's 1977 Dental Clinics of North America issue, on the same subject. Some of the original chapters were revised and 4 new chapters added.

The text is intended to follow a biologic rather than a mechanical approach to complete denture construction. The contents are organized into four parts: The edentulous Patient (3 chapters

and 62 pages), The Construction of Complete Dentures (17 chapters and 404 pages), The Maintenance of Complete Dentures (4 chapters and 50 pages), and Special Techniques and Problems (9 chapters and 188 pages).

Thirty people contributed to provide the thirty-three chapters into which this book is divided. Thus, some variations in the text are evident. Chapters differ in length and depth of discussion, quality of diagrams and photographs, and the presence of adequate references. However, because several authors and their philosophies were allowed scope for presentation, areas of information were presented that are not available in other texts. The chapters that discuss Residual Ridge

Resorption, and the History of Development of Posterior Tooth Forms contain data that are not readily available elsewhere.

The editor's intention is to provide a comprehensive text. Thus, many topics are included and discussed in the book by several contributors and despite any editor's most assiduous efforts, some repetition occurs. We are warned of this in the preface and if that is taken into consideration, the book presents useful information and several viewpoints to assist the reader in making complete dentures.

This book was reviewed by A. Fenton, DDS, MS, FRCD(C) Associate Professor of Prosthodontics, University of Toronto.

Atlas clinique de prothèses combinées

Georges Papathanassiou
Julien Prêlat, éditeur

*7, rue du Petit-pont
Paris 5^e
68 pages.*

Cet ouvrage, sans prétention, présente vingt-cinq cas cliniques avec autant de suggestions de traitement par prothèses combinées.

Dans son préambule l'auteur reconnaît lui-même, que les solutions présentées ne sont pas toujours les meilleures à tous les points de vue, ni les plus conformes aux concepts modernes.

L'Atlas clinique, puisqu'il faut appeler par son nom, ressemble davantage à un livre de recettes qu'à un livre de référence. On insiste beaucoup trop sur le côté mécanique et technique du traitement. Les attaches de précision y

sont employées à profusion. On les retrouve sous forme intra-coronaires, extra-coronaires, sous forme de boutons, de barres, de charnières, etc.

L'auteur fait preuve de beaucoup d'ingéniosité et de créativité pour atteindre son objectif qui semble être constamment l'esthétique d'abord. Sur ce point, les résultats sont formidables. Dans presque tous les cas on peut noter l'absence ou le camouflage des crochets conventionnels. Le point faible de l'ouvrage c'est le peu d'importance que l'on accorde à la distribution des stress occlusaux sur les dents, et les structures de support. Dans plusieurs cas, en effet, l'auteur nous montre des bases qui ne couvrent pas la surface optimale des crêtes résiduelles, ou encore, il suggère des attaches extra-coronaires qui appli-

quent les stress occlusaux dans une direction toute autre que celle de l'axe long de la dent pile. À aucun endroit il n'est fait mention de la longévité des prothèses en bouche.

Ce livre présente 256 photographies dont la qualité laisse grandement à désirer. C'est d'ailleurs la grande variété des cas et l'abondance de l'illustration qui fait l'intérêt de l'ouvrage. L'opérateur moyen peut y puiser des idées qui l'amèneront peut être à solutionner le problème qui le préoccupe. Il y a des chances, en effet, que l'on trouve dans ce vaste étalage un cas qui ressemble à la situation du patient que l'on est en train de traiter.

Critique par Normand Brien, DDS, MS, Faculté de médecine dentaire Université de Montréal

Textbook of Operative Dentistry

Baum/Phillips/Lund

W.B. Saunders — \$40.00

This text reflects the combined efforts of two highly acclaimed teachers and clinicians in the field of operative dentistry along with a world authority in the related field of dental materials and, as such, provides a solid framework for the treatment of dental disease. Prospective purchasers of any text have varied expectations with respect to its content. However, in this text they are advised by the authors in the preface that many chapters are inclined to a "How to do approach". Consequently, the book was not sufficiently basic for undergraduate dental students at the first or second year level, who require a text which more thoroughly schools them in the fundamentals of cavity preparation and restoration. Those who have "learned to walk", namely, senior dental students and practising dentists will benefit more from the authors' expertise in applying basic concepts to the atypical problems of daily practice.

The authors are to be commended for establishing a focus for the text in the early chapters which deal concisely with prevention and biological considerations for operative procedures. This reminds us of our primary roles of preventing dental disease and minimizing its ill effects by and after treatment. These are followed by chapters on instrumentation, handgrasps and operating positions which are discussed thoroughly and augmented by photographs and excellent line drawings. The chapter on rubber dam is excellent and demonstrates the value of the authors' "How to" approach with a variety of helpful hints such as clamp selection and the customizing of stock clamps to suit difficult clinical situations. Highly commenda-

ble is the approach to the treatment of the carious lesion by establishing a treatment rationale for superficial, moderate and deep lesions. Unfortunately, the authors allow personal biases to override strong clinical research in their attitude to indirect pulp capping. They suggest that the decision to provide this form of treatment should be partially based on the patient's possible desire to "go for broke." This lamentable flaw, although minor, should have been avoided.

A major strength is the presentation of the various dental restorative materials. The reader will appreciate the topical nature of these chapters since they include the new high copper amalgams, microfilled composite resins and the glass ionomer cements for class V abrasion and erosion restorations. Unfortunately, the lag time of publication prevented any inclusion of the new white light curing resin systems which are already supplanting the old UV systems. The final chapters deal with cast metal and porcelain bonded to metal restorations and receive adequate, competent coverage.

A fitting closure to the book is the section on the re-inforcement of the endodontically treated tooth. As the authors suggest "restoration of the pulpless tooth is probably the greatest challenge for the operative dentist." They presented the conventional cast post and core and considerable material on the wide variety of prefabricated systems along with their customary helpful hints. The subject is absent from many operative texts but here it receives the coverage it deserves.

In summary, the book compares most favourably with other operative texts currently available.

This book was reviewed by James Brown, Faculty of Dentistry, University of Toronto.

In the May edition of the CDA Journal, we regret that through a technical mishap, the name of reviewer **Dr. H.S. Katz**, Assistant Professor of Pharmacology and Therapeutics (Dental) McGill University Faculty of Dentistry, was omitted. He along with Dr. B.C. Benfey, had reviewed **Pharmacology and Therapeutics for Dentistry**.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association's Retirement Savings Plan stood as follows on April 31, 1982.

<i>Common Stock Fund</i>	\$48.5894
<i>Fixed Income Fund</i>	\$27.5881
<i>Guaranteed Fund</i>	\$23.0555
<i>Balanced Fund</i>	\$10.7737

Total assets (market value) of the plan were \$29,975,216.

The previous month's figures, as of March 31, 1982, stood as follows:

<i>Common Stock Fund</i>	\$48.2710
<i>Fixed Income Fund</i>	\$27.1051
<i>Guaranteed Fund</i>	\$22.7908
<i>Balanced Fund</i>	\$11.0596

Total assets (market value) of the plan were \$29,963,929.

For further information write to: Canadian Dental Service Plans Inc., 2 St. Clair Ave. E., Toronto, Ont. M4T 2W1 or call the central information services of CDSPI At 1-800-268-3792 (961-7117 in Metro Toronto).

Nursing Bottle Syndrome; prevalence and etiology in a non-fluoridated city

G.D. Derkson, DMD
Vancouver, B.C.

Patti Ponti, BHE
Vancouver, B.C.

SUMMARY

Nursing caries syndrome is a serious disease affecting at least 3.2 per cent of the population. The etiology of nursing caries syndrome appears to be multifactorial. Some of the factors which seem to be involved are:

- (a) education status of parents
- (b) prolonged daytime bottle or breast feeding
- (c) night and naptime bottle or breast feeding
- (d) the age of eruption of incisors, and
- (f) fluoride supplementation of the diet.

INTRODUCTION

Nursing bottle syndrome is a disease of preschool children involving caries of the primary teeth.¹ It is also known by the names nursing bottle caries, bottle mouth syndrome, and baby bottle syndrome.

Nursing bottle syndrome can vary in severity, but always follows a distinct pattern of carious destruction of the teeth. As seen in the photographs, (**Figure 1** and **Figure 2**), the teeth are affected in the order in which they erupt, the maxillary incisors being the first and most severely affected. A distinguishing feature of nursing bottle syndrome is the freedom of the lower incisors from carious lesions (**Figure 2**).

Nursing bottle syndrome can affect all surfaces of the incisor teeth, and often is initiated on the lingual surfaces. In such cases the caries may progress to pulpal involvement before the parent becomes aware of the problem. In severe cases of nursing bottle syndrome, very young children must undergo extensive dental treatment, often requiring a general anaesthetic.²

This study was undertaken to determine the prevalence of nursing bottle syndrome in a non-fluoridated city, and to investigate the possible etiology.



Figure 1. Caries initiation on lingual surfaces of incisors.

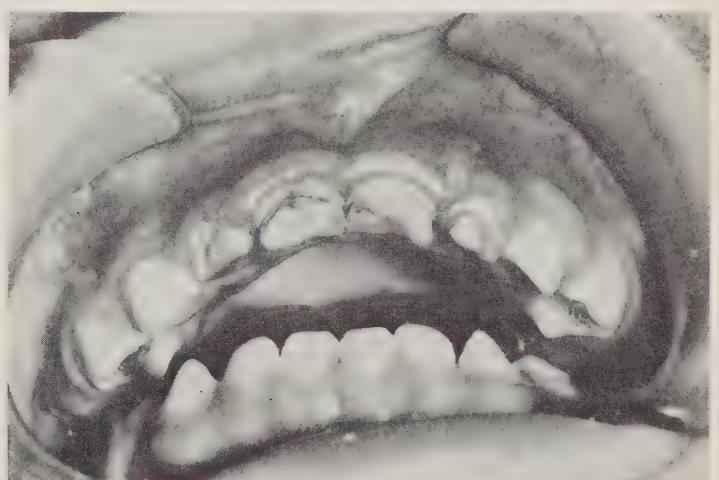


Figure 2. Rapid carious destruction of incisors and first molars which follows the sequence of eruption. Note that the lower incisors are not affected.

METHODS AND MATERIALS

The subjects for the study were randomly selected from children attending public health clinics and community centre activities. All the children were between nine months and six years of age.

An interview was developed to attain information related to demographic data, socio-economic status, perinatal health of the child, dental history, feeding practices, and nutritional considerations.

One of the investigators (P.P.) interviewed the parent of each child in the study. Following the interview, the child's teeth were examined using a portable light source, to determine whether or not the child had nursing bottle syndrome. The criteria used in the diagnosis was the presence of smooth surface caries on the labial and lingual surfaces of the maxillary incisors.

All positive cases were confirmed by the second investigator (G.D.) and the teeth were photographed, where possible.

TABLE I

Prevalence of Nursing Bottle Syndrome

Number of subjects	594
Number of nursing bottle syndrome	19
Prevalence	3.2%

TABLE II
Demographic Data

	Non-NBS		NBS	
	mean	range	mean	range
Age of child (months)	30	9-71	34	15-60
Age of father (at birth of child)	28	16-54	23	24-48
Education of father	13	4-31	9	8-19
Age of mother (at birth of child)	27	16-45	24	18-36
Education of mother	13	5-20	11	7-16

Statistical comparison of the data of the children with and without nursing bottle syndrome was carried out using factor analysis.

RESULTS

As can be seen in Table I, 594 children were examined and of these 19 had nursing bottle syndrome. The prevalence of nursing bottle syndrome in this study therefore is 3.2 per cent. The demographic findings indicate a trend for

TABLE III

Birth History

	Non-NBS		NBS	
Problems in Pregnancy	7.7%		5.3%	
Prematurity	6.1%		0%	
Problems in delivery	9.6%		10.5%	
Postnatal complications	5.9%		5.6%	
Illness in first 2 years	12.0%		21.1%	
	mean	range	mean	range
Birthweight (gm)	3373	1107-5221	3555	2270-4739

TABLE IV
Dental History

	Non-NBS		NBS	
	mean	range	mean	range
Age of eruption of upper incisors	8.0	3-15	6.4	2-12
Frequency of toothbrushing by parent	occasionally		occasionally	
Frequency of toothbrushing by child	never-occasionally		never-occasionally	
Age of initiation of toothbrushing	1-2 yr. old		1-2 yr. old	
Age at time of first dental visit	3-4 yr. old		3 yr. old	

the parents of children with nursing bottle syndrome to be younger and have fewer years of formal schooling, Table II. The comparison of the variables in birth history indicate that the two groups are quite similar except in the area of infant illness, where there is a trend for the NBS group to have experienced illness during infancy more frequently, Table III. The dental histories of the two groups were quite similar with a slight trend for the NBS group to have their incisors erupt earlier, Table IV.

The data for bottle feeding indicates a tendency for the NBS group to have had the bottle ad libitum more frequently than the non-NBS group, Table V. The habit of

TABLE V Bottle Feeding				
	Non-NBS		NBS	
Bottle feeding habits:				
on schedule	41.2%		36.8%	
ad lib	43.8%		63.2%	
no bottle feeding	15.0%		0%	
Frequency of bedtime bottle:				
every nap & night	40.2%		57.9%	
every nap	0.6%		0%	
every night	13.4%		21.1%	
4-5 x/ week	1.0%		5.3%	
occasionally	5.3%		5.3%	
never	36.6%		10.5%	
Nipple in mouth all night:				
yes	10.7%		47.1%	
no	86.9%		52.9%	
Prolonged daytime bottle				
Yes	20.2%		55.6%	
no	79.6%		44.4%	
	mean	range	mean	range
Frequency of bottle feeding at 9 months (times/day)	4.4	1-23	4.2	1-10
Total hours spent with bottle at 9 months	2.2	0.5-24	8.3	0.5-24
Age at time of weaning	17.7	2.0-48.0	21.4	11.0-35.0

taking the bottle at every nap and night time is more frequent in the NBS group. Forty per cent of the non-NBS group never had a bottle at night or nap time as compared with 10 per cent for the NBS group. The frequency of keeping the nipple of the bottle in the mouth all night was greater in the children with NBS than without NBS. As well, using the bottle for prolonged periods of time during the day occurs more frequently in the NBS group.

The average number of hours spent with access to the bottle was 8.3 hours for the NBS group and 2.2 hours for the non-NBS group. However, 30 children without NBS had prolonged access to the bottle of over eight hours per

TABLE VI Breast Feeding				
	Non-NBS		NBS	
Percentage of babies breast fed	73%		74%	
Bottle supplementation of breast feeding	31%		21%	
Feeding method after weaning:				
bottle	79%		85.7%	
cup	15%		7.1%	
bottle and cup	6%		7.1%	
Breast feeding habits				
schedule	12.5%		7.1%	
ad lib	87.5%		92.9%	
Prolonged breast feeding at 6 months age				
night	5.7%		21.1%	
day	2.3%		0%	
night & day	4.3%		5.3%	
neither	87.7%		73.7%	
	mean	range	mean	range
Hours of breast feeding at 6 months	2.2	1-14	1.6	1-2
Age of weaning from breast feeding	7.0	1-32	7.9	1-36

day. There is a tendency also for the NBS group to have been weaned from the bottle when they are older. The data on breast feeding shows little difference between the two groups with the exception that the NBS group was fed at night time at a greater frequency than the non-NBS group, Table VI.

The data for the other nutritional components of an infant's diet indicates that fluoride supplementation of the diet was followed in a more conscientious manner more frequently in the non-NBS group, Table VII. Twenty-five per cent of the study population used a pacifier and of these only 27 were given a sweetener on it, for a prevalence of 4.5 per cent. Seven children with NBS had sweetened pacifiers. Factor analysis of the variables which did show differences between the NBS group and the non-NBS group indicated that NBS may be associated with socio-economic status, total number of hours spent with the nursing bottle during the day, and fluoride supplementation.

DISCUSSION

The clinical impression of pedodontists in the Vancouver area indicates an increase in the number of children with Nursing Bottle Syndrome. However the prevalence of 3.2 per cent in this study is substantially lower when compared with other prevalence studies.³⁻⁸ Table VIII. A possible explanation is that the present study may be biased towards an under-estimation of the population prevalence. This could have occurred because of the method of sampling used in this study. That is, in order to be included in the study the parent had to be in attendance at either a public health clinic or recreation facility. However, it is possible that this finding is in keeping with the 50 per cent reduction in the DMFS of school children recently observed in this region.⁹

The relationship of nursing bottle syndrome to specific etiologic factors was not conclusive. The use of a nursing bottle as a pacifier seems to be at the root of the problem. However, the finding that almost 40 percent of the children who didn't have the syndrome always had a bottle at nap and bed time and 30 children who didn't have the syndrome had access to the bottle for more than eight hours per day, indicates that there may be other factors which predispose to the nursing bottle syndrome.

Studies by other investigators to isolate specific etiologic agents which cause NBS have not been able to show a direct relationship with NBS, indicating that it is of multifactorial etiology.¹⁰⁻¹⁷

Published reports of nursing bottle syndrome caused by breast feeding have appeared in the recent dental literature.^{18, 19} One of the children in this study with nursing bottle syndrome had been only breast fed. This is in conflict with another report where no NBS caries was associated with breast feeding.²⁰ In the present study the his-

TABLE VII
Nutritional Considerations

	Non-NBS	NBS
First solid food:		
cereal	67.1%	52.6%
cereal with fruit or sugar	11.5%	10.5%
yogurt	0.9%	10.5%
vegetables	5.2%	0%
fruit	12.3%	15.8%
other	3.0%	10.5%
Fluoride supplementation		
1-2 times/week	4.5%	31.6%
3-5 times/week	12.7%	5.3%
5-7 times/week	60.9%	36.8%
never	21.9%	26.3%
Vitamin supplementation		
1-3 times/week	4.2%	21.1%
3-5 times/week	6.8%	10.5%
5-7 times/week	51.1%	47.4%
occasionally	0.2%	0.0%
never	37.7%	21.1%

TABLE VIII
Nursing Bottle Syndrome Prevalence Studies

Beltrami	France	1939	2.5%
Goose	Britain	1967	6.8%
Goose	Britain	1968	5.9%
Winter	Britain	1971	5.2%
Currier	USA	1977	4.9%
Cleaton-Jones	S. Africa	1978	13.7% Rural 3.1% Urban
Present Study	Canada	1981	3.2%

tory of breast feeding was similar to that of the case reports; that is the infant was breast-fed ad lib, slept with the mother, and was not weaned until three years of age. Notwithstanding, the arguments of some that breast-fed infants cannot get NBS,²¹ it seems apparent that it is possible and mothers should be counselled accordingly. Furthermore, these findings suggest a name change — to nursing caries syndrome perhaps?

A comparison of the prevalence of the use of pacifiers shows that they were used with slightly greater frequency in the present study population (25 per cent) than in the

studies reported by Goose and Gittus 1967 and 1968, where a prevalence of 21 per cent and 9.4 per cent was reported respectively. The prevalence of usage of a sweetened pacifier was similar, 4.5 per cent in this study, as compared to 5 per cent in the 1967 report of Goose.⁴

The key to the problem of nursing caries syndrome is preventing it. As always, education is what is required. Many articles have been written with the specific intent of making the health professional aware of the problem.^{1, 22-25} Perhaps what is required is a re-evaluation of the health-related professional school curriculums, particularly in the medical and nursing areas, to ensure that dentistry, and in particular preventive dentistry, is adequately taught. Perhaps then we will see a reduction in the caries problem in young children known as nursing bottle syndrome.

The foregoing presentation was made at the 4th annual Canadian Congress of Dentistry for Children in June, 1981 in Toronto, and Dr. Derkson was the first recipient of the Research Award, from the Congress.

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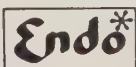
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ADVERSE REACTIONS: Light-headedness, dizziness, sedation, nausea and vomiting may occur, as well as euphoria, dysphoria, constipation and pruritus.

DRUG INTERACTIONS: May be additive with other CNS depressants.

MANAGEMENT OF OVERDOSAGE: Signs and symptoms: Respiratory depression, extreme somnolence progressing to stupor or coma, skeletal muscle flaccidity, cold and clammy skin, and sometimes bradycardia and hypotension. In severe cases, apnea, circulatory collapse, cardiac arrest and death may occur. Acute acetaminophen intoxication is characterized by anorexia, nausea, vomiting and sweating within two or three hours of ingestion, and possibly cyanosis with methemoglobinemia, enlargement and tenderness of liver, accompanied by abnormally high liver function tests, occur within 48 hours, followed by jaundice, coagulation defects, myocardiopathy, encephalopathy, renal failure and death due to hepatic necrosis. A dose of 10 g of acetaminophen is intoxicating, possibly fatal. Hepatic toxicity occurs when the plasma level reaches 300 µg/ml within four hours of ingestion. **Treatment:** establish adequate respiratory exchange. Naloxone, nalorphine or levallorphan are specific antidotes against narcotic-induced respiratory depression. An appropriate dose of antagonist should be administered preferably intravenously, and repeated as needed to maintain adequate respiration; the patient should be kept under continued surveillance. Instructions in the package insert provided by the manufacturer should be carefully followed. Do not administer an antagonist in the absence of clinically significant respiratory or cardiovascular depression. Employ oxygen, intravenous fluids, vasopressors and other supportive measures as indicated. Gastric emptying by emesis or lavage may be helpful. Hemodialysis carried out within ten hours of ingestion may be of some value. Plasma levels of acetaminophen should be determined.

DOSAGE AND ADMINISTRATION: Percocet Tablets: Usual adult dose is one tablet every six hours as needed for pain.

Percocet-Demi Tablets: Usual adult dose is one or two tablets every six hours. Children twelve years and older: half a tablet every six hours. Children six to twelve years: a quarter of a tablet every six hours. Not indicated for children under six years of age. Dosage should be adjusted according to the severity of pain and the patient's response.

DOSAGE FORMS: Percocet Tablets: Bottles of 40, 100 and 500 white, scored tablets, each containing oxycodone hydrochloride 4.5 mg, oxycodone terephthalate 0.38 mg, acetaminophen 325 mg, caffeine 32 mg.

Percocet-Demi Tablets: Bottles of 40, 100 and 500 blue quadrisectioned tablets, each containing oxycodone hydrochloride 2.25 mg, oxycodone terephthalate 0.19 mg acetaminophen 325 mg, caffeine 32 mg.

Complete prescribing information available on request.

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Normalization of dental care for handicapped patients in a medium-sized Canadian city: a team approach

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ABSTRACT

A dental program was established in the Kitchener-Waterloo area of Ontario to meet the special needs of multiply-handicapped children and young adults in an institution (Sunbeam Home) and in the community. The Staff of Sunbeam Home were taught to give dental care under the supervision of a registered nurse. A hygienist visits the Home regularly to do scaling and give oral prophylaxis. The dentist sees every child once a year to establish treatment priorities and attempts to treat patients in his private office. If the patient is not co-operative or the restoration is too extensive, the child is admitted to a local general hospital for dental surgery. In two years, 37 patients (aged 2 to 26 years) have undergone such surgery. It is now possible to see the benefits of the preventive measures in many children, in terms of reduction of dental problems and personal well-being.

INTRODUCTION

A dentist has a great opportunity to use his or her training, imagination and empathy to the fullest in providing dentistry for the physically and mentally handicapped, who are part of every community in our province.

Handicapped patients require special attention to prevent dental disease since many of them have difficulty maintaining good oral hygiene.¹ However, in the past,

dental care for the handicapped has often been lacking. In a study in London, England,² lack of co-operation by the parents was seen as the most common difficulty in obtaining dental treatment. Parents may "neglect dentistry in their mentally retarded children because they have so many other difficulties relating to them."³ Some parents are embarrassed if their retarded child creates a scene in the dental office. Further, since many retarded children also have physical handicaps, transportation to the dental office presents a major problem. At the same time many dentists have felt unprepared to accept the handicapped as patients and community facilities often have not made it possible to treat the handicapped locally.

Because of these problems, in the Kitchener-Waterloo area we developed a dental program for handicapped children in a residential institution and in the community. The goal of the program is to offer dentistry to these children in the same way it is provided to normal children. The program uses a team approach, co-ordinating dental care in the institution, a private dental office and a local general hospital.

DEVELOPMENT OF THE DENTAL PROGRAM

In 1974 the board of directors of Sunbeam Home in Kitchener, Ontario, requested that a dental program be established for the residents of the Home and approached the dental consultant to the Ontario Ministry of Health (GDA). Shortly afterwards, a local paedodontist (BAR)

became dental director of the Home, providing services to the residents, under local anaesthesia, at the Home and in his private office.

It was soon obvious that general anaesthesia was necessary for children requiring extensive restorations or surgery. A few patients were referred to The Hospital for Sick Children, Toronto, which is 100 km from the Home, but this process was cumbersome and inefficient since it occupied staff from the Home (one per patient) as well as the Home's van and its driver for at least one full day.

By 1979, the International Year of the Child, better arrangements were possible. The Regional Dental Health Officer appointed a dental hygienist to go to the Sunbeam Home one-half day a week to perform dental surveys, and provide prophylaxis and treatment. This relieved the dental director of these routine tasks. In the meantime, the dental director and administrator of Sunbeam Home (PAH) approached a local general hospital (St. Mary's General Hospital) with a proposal to establish a dental unit for these patients in one operating room. The administrator of the Home arranged a meeting between the dental director and the hospital staff who would be most affected by these admissions: the administrator, head of anaesthesia, head nurses of the operating and recovery rooms, a representative from the nursing office and the booking clerk. The special needs of the patients and the ways in which we planned to meet them were discussed.

Once the representatives of the hospital were satisfied that the admission and surgery could be accomplished without excessive pressure on their resources, they accepted our proposal and set aside block time (use of an operating room for a specific period at a regular interval).

The operating room (OR) was modified for dental surgery but can be quickly made into a general OR. A portable dental unit (Adec Micro-Cart, Model 2403) with water and air lines and an umbilical cord is attached to a control box at the wall. A portable Phillips Oralix 65 dental roentgenography unit (Type 9801 100 30604)* was contributed by Sunbeam Home. An automatic amalgam mixer is also available.

Another important improvement in the program came when one of the registered nurses at the Home took a special interest in maintaining and promoting the daily routine of dental care (nurse in charge of the dental program). She also carries out monthly spot checks on each child.

The costs of the program are shared by the Home, the dentist and the Hospital.

SUNBEAM HOME

Sunbeam Home is operated under the guidelines of the Ontario Ministry of Community and Social Services. It has a voluntary board of directors from the community

*Phillips Oralix 65 Dens-o-mat. 110 V. 7.5 ma, output 65 KVP, 60 Mz, 9.8 A.

and an administrator. Operating expenses are met by the provincial government and capital expenditures are shared by the government and community contributions. The Home has 100 to 126 severely retarded and multiply-handicapped residents, ranging in age from infants to young adults. Sunbeam Home constantly promotes positive health programs that enable each child to enjoy the greatest possible development.

Staff Training

The dental program was introduced by holding seminars for the direct care staff in the Home. The dental director talked about the theory behind, and philosophy of, the program. His dental assistant showed the staff how to brush and floss their own teeth correctly and the hygienist supervised a brush-in and floss-in. We believed that if staff were made aware of their own dental needs they would be more attentive to the needs of the children.

The nurse in charge of the dental program has developed ingenious and enthusiastic programs to maintain staff interest in oral hygiene. Similar seminars are held three or four times a year, accompanied by poster and audiovisual displays and in-house competitions to reinforce teaching. The dentist also compliments staff and answers their questions during his annual survey.

New staff are shown a videotape of the introductory seminar. Also, during orientation, the hygienist stresses the importance of dental care and teaches oral hygiene techniques.

Annual Dental Survey

Each year the dental director surveys all patients at the Home to establish priority lists for dental surgery and periodontal treatment. Each patient's dental problems are rated on a scale from zero to five and then the patients are listed in order of the urgency of their problems. Referrals for surgery are made to the private office and appointments for periodontal treatment are arranged at the Home. Severe cases are referred directly to a community periodontist.

Some new residents arrive at Sunbeam Home with a full dental evaluation and can be fitted into the priority lists in the appropriate places. Others must first be seen by the hygienist, who makes a preliminary evaluation. If work appears necessary the hygienist refers the child to the dental office for full diagnosis.

Oral Hygiene

All residents brush their teeth or have them brushed after each meal. Toothpaste is used only for children who can rinse their mouths and expectorate the toothpaste and water. Otherwise, only water and good brushing techniques are used. Several residents who lack manual dexterity but are being taught independent living skills have electric toothbrushes. The staff checks any child who brushes his own teeth to ensure that plaque does not build up.



Fig. 1. The driver of the Home's van, loading patients into the van to go to the dentist's office.

The hygienist does scaling and gives oral prophylaxis on her weekly visits, according to the priority lists established by the dentist. Staff can also ask her about dental care for special patients during her weekly visits and she helps them establish special procedures to deal with problems. Referrals to the hygienist are also made by notifying the dental director. If problems are noted at the residents' annual case conference, the children are referred to the dental director.

THE COMMUNITY

As well as more than 100 residents, Sunbeam Home has a revolving population of 70 children who live with their families but come to the Home occasionally on the Parent Relief Program. This program allows parents who have chosen to keep their handicapped children at home to have holidays away from them.

While these children are in Sunbeam Home they are fitted into the hygienist's schedule and assessed by the dentist.

TRANSPORTATION OF RESIDENTS FOR MORE SPECIALIZED CARE

An important requirement for success in this program is special transportation for the patients. Sunbeam Home uses a special van equipped with a wheelchair elevator donated by People Who Care (an informal community group) (Fig. 1). Each patient being transported is accompanied by one staff member.

THE PRIVATE DENTAL OFFICE

The only way to truly evaluate a handicapped person's ability to cope with dental treatment is to attempt the treatment. We usually intersperse patients from Sunbeam Home between normal patients in the practice; everyone is seen in one open-concept office.

The desensitization technique modified by Addelston⁴ and described by Barenie and Ripa⁵ is applied. The dentist tells the patient what he is going to do and then shows



Fig. 2. Two children from the Home and one normal child in the dentist's open-concept office.

him the procedure. Finally, he attempts the activity. The first step is to examine the child in the dental chair or wheelchair, with a mirror or probe (Fig. 2). If this task is accomplished, more difficult procedures are attempted to evaluate the patient and encourage appropriate responses to treatment.

Patients are rated as co-operative, fidgety but co-operative, actively unco-operative or violently unco-operative.⁶ The behaviour profile is evaluated three times during the appointment.

A patient who cannot handle the simplest procedures is considered for general anaesthesia. This decision also depends on the extent of the dental work and the risk for the patient in undergoing the general anaesthetic, as determined by the attending physician.

REFERRAL TO THE HOSPITAL

Booking Procedure

The dentist establishes the treatment plan and lets his receptionist know how much OR time will be needed. She sends letters to the administrator of the Home and the child's physician, who arranges for the usual preoperative tests, and telephones the booking clerk. The receptionist also ensures that the hospital receives a complete medical history and confirms that all the necessary tests have been done before the admission.

Materials, Instruments and OR Staff

As far as possible, materials and instruments are provided by the dentist from his office. Before the surgery, the dental assistant sets up trays and prepares the materials (e.g., punches rubber dams and sterilizes tray holders) in the office.

In the OR, the anaesthetist and OR nurse are responsible for the patient's well-being during the general anaesthesia. A dental nurse, previously approved by the hospital, assists the dentist. After anaesthesia and intubation with a nasal tube, the throat is packed and the patient is draped with a lead sheet while a full set of dental roentgenographs

is taken (Fig. 3). The x-ray films are developed immediately and the dentist examines them and adjusts the treatment plan accordingly. Teeth with incipient caries are also restored to avoid repeating general anaesthesia more often than necessary (Fig. 4).

After the dental procedures are complete, the OR assistant records the actual treatment given on the patient's chart and compares it with what was planned. The dentist indicates a complete summary of the work, including all techniques. The dental nurse takes the instruments and materials back to the office for sterilization and repacking for the next use.

RESULTS

The direct care staff have become conscious of the importance of dental health. The results of the monthly checks improved markedly at first; now that the most urgent problems have been dealt with the spot check results vary as new patients are admitted and new problems become apparent. Many children living in the community now have access to dental care for the first time.

The behaviour profile in the office is usually constant, that is, most patients are co-operative or unco-operative throughout the appointment. The next most common profile is progressive, that is, patients behave better as

the appointment goes on. Regressive (getting progressively worse) and peak (unresponsive except for one outburst) profiles are uncommon.

In two years, we have operated on 37 patients (aged 2 to 26 years) at St. Mary's General Hospital. Of these, 23 lived in the Home and 14 in the community. In about half the cases (19), the general anaesthesia was 1½ to 2½ hours. Four patients had shorter procedures (less than 90 minutes) and the remainder (14) were anaesthetized for more than 2½ hours.

DISCUSSION

In 1971 approximately 210,000 handicapped people lived and worked in Ontario. According to the Province of Ontario Task Force on Dental Care for the Mentally Retarded (1972), they "require a program in preventive dentistry even more than individuals of normal intelligence because of the difficulty experienced in providing some of them with dental treatment and the inability of others to learn to use dentures."⁷

Arranging dental services for the handicapped who live in an institution requires the goodwill and co-operation of a number of staff in the Home, the dentist's office and the hospital, as well as assistance from government and the community. Actually providing prophylaxis or treatment in the Home or office can be awkward. An unco-operative, handicapped person can turn a simple dental procedure into a prolonged and difficult operation.³ However, it is possible to train the handicapped to improve dental hygiene. In a study of severely retarded children Albino et al¹ showed that intensive, small group instruction in preventive concepts, offered in a five-week program, decreased plaque-scores significantly below the level of those of the control group. We have found ways of handling the difficulties in our program and hope that by concentrating on prevention we will decrease our problems as well as increase the quality of life for these children.

In the private practice we find the open-concept office and the integration of handicapped and normal patients helpful. The children can see each other in different phases of therapy. Because of modelling, behaviour in handicapped (and normal) patients that might otherwise be difficult, is ameliorated.

Initially, a small general hospital may be reluctant to admit a handicapped child for surgery.⁸ There may be few staff who are familiar with the problems presented by the child's physical or mental handicaps or too few paediatric nurses available to provide the extra care that is usually necessary. Such children commonly have chronic, recurring upper respiratory infections or spasticity that prevent full expansion of the chest.

In many cases the children are on medications that limit the choice of anaesthesia. Furthermore, many of them are small for their ages so anaesthesia doses have to be calculated by weight with a 10 per cent adjustment for age. The hospital nursing staff must provide special care in the re-

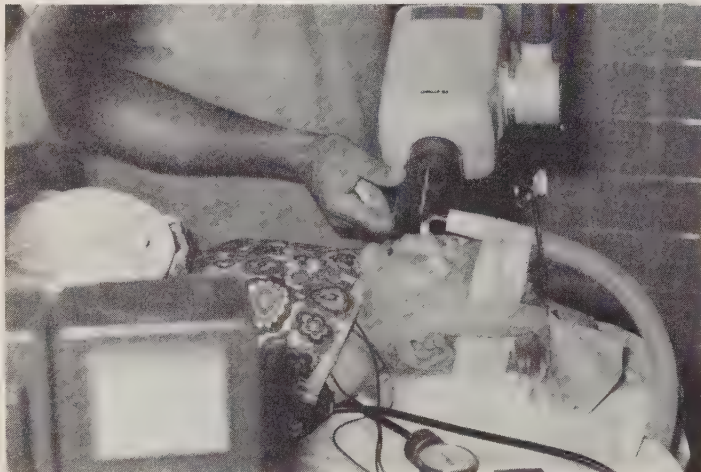


Fig. 3. Oral roentgenographs being taken in the OR after the child has been anaesthetized.

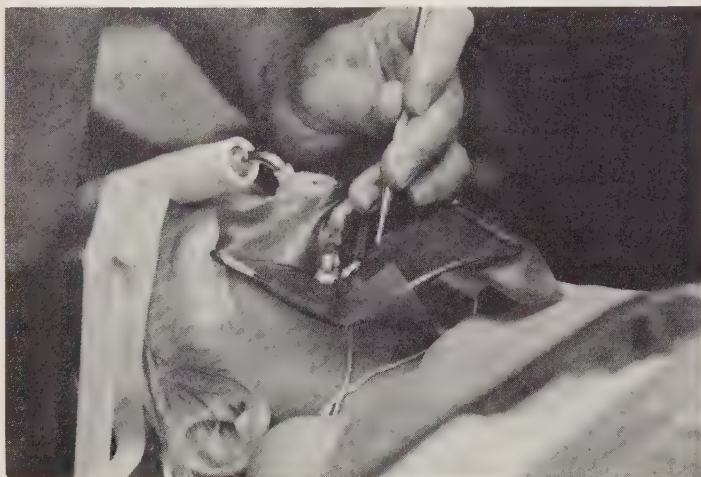


Fig. 4. General anaesthesia is utilized for full mouth treatment.

covery room, since the child's medications and the anaesthesia may potentiate each other.

On the other hand, none of these problems are insurmountable. By noting each one and discussing it with the appropriate staff we were able to reduce the difficulties to manageable levels. In fact, since we began operating, the hospital has not reported any undue strain on their facilities or unexpected complications.

One reason our surgery is relatively uncomplicated is that the dentist provides his own handpieces. In hospitals where dental equipment is used infrequently, it often does not work well when it is needed. Since the maintenance is done regularly at the dentist's office our equipment is reliable.

Our program is directed mainly towards children in an institution. However, the handicapped living in the community also need dental care. Furthermore, more handicapped people are remaining in the community now than in the past. With the implementation of the Williston Report³ the number of handicapped living in government institutions has decreased during the past decade by more than 50 per cent (unpublished date).

Handicapped children living in the community have more dental disease than similarly handicapped children in institutions. A study comparing the incidence of dental caries in mentally retarded inpatients and outpatients at the Hathorne Regional Center in Massachusetts⁹ found that in the 16- to 30-year-old age group, the incidence was almost twice as great in the outpatients' group, at least partly because the diet of the inpatients was carefully controlled. A higher caries rate has been found in children with Down's syndrome who live in the community than in those living in institutions¹⁰ and fed a low cariogenic diet.¹¹

Mentally retarded children living in the community also have a higher rate of tooth decay than normal children. In a sample of 201 mentally retarded children living in Portland, Oregon, 55 per cent had active caries and the DMF rate was higher than in a normal population.¹² Levine et al found that the DMF of the handicapped patients treated in the dental clinic at Mount Sinai Hospital in Toronto was much higher than in the normal patients in the same community.¹³

Similar dental programs would be useful for the growing population of the elderly, both in institutions and in the community. Good dental care can help ensure a healthier and more independent lifestyle for handicapped and normal people of all ages.

SUMMARY

Successful dental treatment of the handicapped requires a team approach. This permits efficient use of facilities while providing effective service. In Kitchener-Waterloo, the integration of services of the general hospital, a private practitioner and an institution has been well co-ordinated to achieve this end.

The dental program in the Sunbeam Home works smoothly, largely because of the efforts of an interested registered nurse, who is responsible for the daily program, and the hygienist provided by the Regional Dental Health Officer. The nurse sees that preventive care is administered every day and that all acute problems are brought to the attention of the hygienist or dentist. Her efforts constantly remind staff, ensure that monthly checks of all children take place and maintain a competitive spirit between wards.

The hygienist complements and reinforces the efforts of the nurse. The annual survey by the dental director measures the effectiveness of the program and priority ranking ensures that the most severe dental problems are treated first.

The private dental office is an integral part of this service. It allows the handicapped patient an opportunity to receive dental service in a normal manner. However, if a patient cannot cope with this, good dentistry is available through the hospital.

Providing the most normal lifestyle that is possible for each handicapped person is part of the philosophy of care in Ontario. As well as being efficient, the team approach allows the handicapped person to experience this normality in dental care.

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Fluoride varnishes as cariostatic agents: a review

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ABSTRACT

Fluoride varnishes developed from a desire to maximize the exposure time of fluoride on enamel for improved caries protection. Two marketed formulations have proven clinically acceptable as cariostatic agents. Future research may discover improved products.

INTRODUCTION

The purpose of this paper is to review and evaluate the effectiveness of fluoride varnishes as cariostatic agents. The development of fluoride varnishes is outlined, showing how they arose from earlier theoretical work on topical fluoride cariotasis. Results from extensive testing of the fluoride varnishes are then summarized, followed by a discussion of the relative merits of these products with respect to other professionally applied topical fluoride agents.

DEVELOPMENT OF FLUORIDE VARNISHES

Traditional professionally applied topical fluoride treatments, for practical reasons, utilize high fluoride concentrations to deposit considerable amounts of fluoride in short periods of time. This fluoride is often deposited initially as a surface layer of the more soluble calcium fluoride instead of the preferred, more protective, fluorapatite. It was felt that providing a barrier to allow fluoride extended contact with the enamel could enhance the three known mechanisms of fluoride cariotasis, namely, reduced enamel solubility, remineralization and antimicrobial activity.^{1,2} Calcium fluoride would be held in place to hopefully convert to fluorapatite. Remineralizing enamel would have a ready supply of fluoride to incorporate into its structure. Antimicrobial concentrations of fluoride could be exposed to plaque for extended times.

It was in this light that a barrier coating study was carried out, whereby topically fluoridated teeth were coated with a mixture of shellac, polyvinyl pyrrolidone vinylace-

tate and nonylphenol in a 20% solution of ethanol.² The study reported that the amount of stable acquired fluoride depended on the length of time the coating remained on the enamel. Similar results were obtained with the application of cyanoacrylate based sealants after fluoride treatment.³ These findings were supported by evidence gained from *in vitro* experiments with topical fluoride showing that delayed washing of the teeth following application led to greater fluoride retention in enamel.⁴

The preceding observations led to the commercial development of two widely available fluoride varnishes to be used as professionally applied topical fluoride treatments. They supposedly provide rapid application and extended exposure of the fluoride. One of them, Duraphat, is a fluoride varnish yielding 2.26% F⁻ from a suspension of sodium fluoride in an alcoholic solution of natural varnish substances. Fluor Protector, the other varnish, yields 0.7% F⁻ from a fluorosilane compound in a liquid polyurethane lacquer.

REVIEW OF LITERATURE

Extensive clinical trials have demonstrated that fluoride varnishes are effective topical fluorides (**Table 1**). These agents will reduce caries in deciduous teeth⁵ and do it more effectively in the primary rather than mixed dentition.⁶ Such results might be due to a more reactive enamel⁷ in the younger primary teeth which more readily interacts with fluoride, or a greater number of more caries-prone contact points in the older children with erupted first permanent molars. Other explanations are that more worn primary molar occlusal tables were not as able to hold the varnish as a sealant,^{8,9} or possibly an artifact of a half-mouth technique, whereby some of the applied fluoride affected the control side. The last supposition bears consideration since the only studies to show no significant caries-reducing potential in a varnish used a half-mouth technique.^{6,10-12}

The varnishes also reduce caries in the permanent teeth. Again, they seem most effective on newly erupted teeth,^{6,13,14} a phenomenon commonly reported with other topical fluorides.¹⁵ Their ability to prevent occlusal decay,⁸ a frequent form of destruction seen soon after eruption, is a benefit not routinely found in other topical fluoride regimes.¹⁵ This property may be related to a simple physical sealing of the retentive occlusal surface, similar in nature to occlusal sealants^{9,16} or an anti-bacterial action upon the organisms trapped in occlusal fissures.¹⁷

Also, a physico-chemical effect upon the occlusal enamel mediated by an extended period of enamel-varnish interaction in the fissure, may be present.

Duraphat and Fluor Protector leave a high concentration of fluoride ion in the outer enamel of both deciduous¹⁸ and permanent teeth^{8,19,20} even greater than that arising from topical APF application,¹⁴ with Fluor Protector providing the highest levels.⁴ This in itself is not important since there is no simple relationship between enamel fluoride deposition and dental caries; the mode of incorporation of fluoride and its distribution in the enamel are important co-determinants.⁷ Thus, it is relevant to note that no CaF₂ was found in treated enamel one week after application.²¹ Whether or not it simply dissolved in oral fluids during the first week may not be critical, since other agents known to produce some CaF have shown significant clinical results as caries preventive agents.^{7,22} Considering the stability of fluoride from varnish after one week and depth of penetration,⁸ the anti-cariogenic potential of varnishes, as noted previously, is understandable.

It is possible that such cariostatic action of the varnish can be improved by increasing the varnish-enamel contact time through application of the varnish in the afternoon and requesting patients to eat only a light meal afterwards and refrain from brushing for 24 hours.¹⁴ It would also seem practical, noting a loss of fluoride over six months,²³ to repeat applications semi-annually, as is the accepted practice with other topical fluoride agents.²⁴

Varnishes seem to be the quickest and easiest of all topical fluorides to apply.¹⁷ Clinical studies report application times for the agent at five minutes for a traditional application format, including prophylaxis, flossing, isolation and drying of teeth, followed by application.²⁵ Others report an average of 30²⁶ to 35¹³ children treated per hour when the subjects were requested to clean their own teeth before treatment. This could prove to be an extremely cost-effective procedure when following such a protocol, especially when noting that caries protection was not affected by such a practice, an observation noted in a project with a similar protocol using other forms of topical fluoride.²⁷

Acceptance of the varnish seems widespread among the children who receive it⁶ although the taste is occasionally unacceptable. Practitioners have found the technique excellent for selected patients such as children who gag on fluoride trays. Such patients find a simple painting of teeth more innocuous. Those delivering dental care to patients under general anaesthetic also find this technique simple,

Length of study (yr.)	Applications per year	Dentition examined	Age of subjects (yr.)	% rel'n	Comments	Study
3	2	2°	9.5 10.5	18.0 43.0	Duraphat	13
2	2	1°	3.0	44.0	Duraphat	15
2	2	1°	5.0	7.4	Duraphat	24
		2°	5.0	(insig) 36.6	Half mouth technique	
2	2	2°	10.0-12.0	50.0	Duraphat	33
2	1	2°	11.0	none	Duraphat	22
	3	2°	11.0	45.0		
2	2	2°	11.0-13.0	12.0 (insig) 24.0	Fluor Protector Duraphat Both half mouth technique	29
2	2	2°	12.8	none	Fluor Protector prevention counselling Half mouth technique	18,19
2	2	2°	13.0-14.0	42.5	Duraphat	14
1	1	2°	15.0	75.0	Duraphat and F ⁻ rinse	17
.5-1.5	unspecified	unspecified	"children"	37.5-46.1	Experimental varnish formula	20

providing a topical fluoride treatment which does not compromise the airway.

The safety of the product does not seem in doubt. In a study involving four children aged 4, 5, 12 and 14, blood and urine levels of fluoride were assessed at selected times following Duraphat application. It was felt no adverse side effects occurred with respect to renal function and that plasma levels were far below those considered toxic.²⁸

SUMMARY

Fluoride varnishes are simple, effective, professionally-applied topical anticaries agents which have proven themselves in repeated clinical trials. This anticaries activity works in addition to that provided by oral hygiene instruction,²⁹ frequent self-administered topical fluoride applications²⁵ or optimal exposure to systemic fluoride.¹²

When applied to populations similar to those in previous studies, results should be significant. Previous caution that further research was necessary before effectiveness could be determined and endorsement given,³⁰ is no longer valid.

Further study of these products must continue, especially on urban North American populations exposed since birth to systemic fluoride. Present professionally-applied topical agents do not provide enough anticariogenic potential to rate universal recommendation on such a population²⁴ and it is possible that these agents, with their combined actions as sealant and fluoride, could prove more effective.^{3,25} As well, study of biologic effects of the barrier agents, not just the fluoride, should be initiated since they present unknown risks.

The concept of a barrier agent with fluoride treatment is biologically sound. The present agents seem to take advantage of this concept to some degree. Improvements in such agents are sure to come if the demand for effective preventive therapy continues unabated. Even now, new materials have been patented as fluoride "coatings"³¹ including fluoro-substituted purines, fluoroalkoxylalkyl 2-cyanoacrylates and fluoride containing polyurethane adhesives. Assessment of such agents will bear future investigation and undoubtedly improve upon the present formulations, but until then, Duraphat and Fluor Protector can be used with confidence where indicated.

Dr. Yanover is presently enrolled as a graduate student at the Faculty of Dentistry, University of Toronto.

Reprint requests to: Dr. L. Yanover, University of Toronto, Faculty of Dentistry, 124 Edward St., Toronto, Ont. M5G 1G6.

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The licence plates are borne by vehicles owned by foreign embassies, high commissions and other emissaries and diplomats based in Canada's capital. It is highly unlikely that the courtesy will be extended to CDA members' vehicles.

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CANADA

CDA BOARD OF GOVERNORS MEETING

The Annual Meeting of the Board of Governors of the Canadian Dental Association will be held on September 24 - 25, 1982, at the Four Seasons Hotel, Ottawa, commencing at 9:00 a.m., on September 24th.

ASSEMBLÉE DU CONSEIL D'ADMINISTRATION

L'assemblée annuelle du Conseil d'administration de l'ADC pour 1982, aura lieu les 24 et 25 septembre, 1982, à l'hôtel Four Seasons à Ottawa. L'assemblée commencera à 9 heures le 24 septembre.

ADVERTISING INDEX

Ash Temple	361
B.C. Public Service	406
Block Drug	350
Butler	IBC
CDSPI	360, 382, 400, 406
Crest	343
Dept. National Defence	386, 405
Endo Laboratories	394
G.D. Searle	357
General Motors	344
Hospital Dental Practice	393
Lever Bros.	351
McPhillips Dental Management	406
Group	405
Nobilium	359
Pfingst	400
Sybron Kerr	358
Universal Lactona	368
Upjohn	IFC, 355
Warner Lambert	OBC
Whaledent International	349

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June/juin

33rd Annual Conference of the Canadian Public Health Association, Explorer Hotel, Yellowknife, Northwest Territories, June 21-24, 1982. For further details contact: Dr. David Martin, Chairman, Scientific Program Committee, c/o Canadian Public Health Association, 1335 Carling Ave., Suite 210, Ottawa, Ont. K1Z 8N8. Phone: (613) 725-3769.

Canadian Paediatric Society Annual Meeting, Holiday Inn, City Centre and Tower, London, Ontario, June 26-30, 1982. Contact: Canadian Paediatric Society, Sherbrooke, Ont. J1H 5N4.

July/juillet

The Sixth Congress of the International Association of Dentistry for the Handicapped, Harbour Castle Hilton Hotel, Toronto, Ontario, July 20-25, 1982. Contact: The Programme Chairman, Sixth Congress I.A.D.H., Dept. of Paedodontics, Faculty of Dentistry, University of

Toronto, 124 Edward St., Toronto, Ont. M5G 1G6.

The Pan-Pacific International Symposium on Biomaterials, University of British Columbia, Vancouver, British Columbia, July 28-30, 1982. Contact: Dr. R.H. Roydhouse, Secretariat Biomaterials '82, 1704, 1200 Alberni St., Vancouver, B.C. V6E 1A6.

August/août

Second International Congress on Hospital Dental Practice, Four Seasons Hotel, Toronto, Ontario, August 26-29, 1982. Contact: Dr. C.O. Munro, Programme Chairman, 2nd International Congress on Hospital Dental Practice, 124 Edward Street, Toronto, Ont. M5G 1G6.

October/octobre

Canadian Association of Oral and Maxillofacial Surgeons 1982 Scientific Session: Pre-Intra and Post-Operative Management of the Major and Maxillofacial

Surgery Patient, Four Seasons Hotel, Toronto, Ontario, October 15-17, 1982. Contact: Dr. David M. Slavkin, Co-chairman, 1920 Weston Rd., Suite 209, Weston, Ont. M9N 1W4.

The Fourth Biennial Symposium on Occlusal Studies, Hyatt Regency Hotel, Vancouver, British Columbia, October 17-20, 1982. Contact: The Society for Occlusal Studies, 1729 South Douglass Road, Anaheim, California 92806, U.S.A. or The Director, Division of Continuing Dental Education, 2199 Wesbrook Mall, U.B.C., Vancouver, B.C. V6T 1Z7.

The Annual Meeting of the Canadian Academy of Endodontics, Four Seasons Hotel, Montreal, Quebec, October 22-24, 1982. Contact: Dr. Herb Borsuk, 4141 Sherbrooke St. W., Suite 515 Westmount, Que. H3Z 1B8. Phone: (514) 933-8424.

December/décembre

The Toronto Academy of Dentistry Annual Winter Clinic, Royal York Hotel, Toronto, Ontario, December 6, 1982. Contact: Academy of Dentistry, 234 St. George St., Toronto, Ont. M5R 2P2.

Announcements

Phone: (416) 967-5649. PLEASE NOTE CHANGE OF DAY AND DATE FROM PREVIOUS YEARS.

Conference on Medical Device Technology in the 80's, Harbour Castle Hotel, Toronto, Ontario, December 6-8, 1982. Contact: Canadian Association of Manufacturers of Medical Devices, 480 Garyray Drive, Weston, Ont. M9L 1P8. Phone: (416) 745-9210.

International

July/juillet

Cours International sur la microchirurgie en médecine dentaire, Bordeaux, France, du 5-7 juillet 1982. C'est un cours d'initiation sur l'utilisation du microscope en dentisterie conservatrice, endodontie, prothèse fixe, périodontie. Inscription: 1600 francs. Contacté: Secrétariat du cours de microchirurgie O.S., Fondation Portmann, 114 avenue d'Arès, 33000 Bordeaux, France.

Academy of General Dentistry's 30th Annual Meeting, The Sheraton-Boston Convention Complex, Boston, Mass., July 10-14, 1982. Contact: AGD, 211 E. Chicago Ave., Suite 1200, Chicago, IL 60611, U.S.A.

The New Zealand Dental Association's 11th Biennial Conference, Rotorua, New Zealand, July 17-23, 1982. Contact: New Zealand Dental Association, 238 Remuera Road, P.O. Box 28 084, Auckland 5, New Zealand.

September/septembre

The 13th International Cancer Congress, Seattle, Washington, September 8-15, 1982. Contact: Congress Office, Suite 1800, Fourth and Blanchard Building, Seattle, WA 98121, U.S.A. Phone: (206) 621-9440.

The seminar "Tomorrow's Dentistry Today" sponsored by the Alpha Omega Foundation and the Friends of the Hebrew University, Grand Hyatt Hotel, New York City, U.S.A., September 11-12, 1982. Contact: Dr. Seymour Evans, Chairman, Alpha Omega Conference, 225 Westches-

ter Ave., Port Chester, N.Y. 10573, or call Tricia Collins (212) 840-5840.

Asociacion Argentina de Ortopedia Funcional de Los Maxilares, 25th Anniversary, Buenos Aires, Argentina, September 19-23, 1982. Contact: Dr. S.A. Gandolfo, Secretario, Asociacion Argentina de Ortopedia Funcional de Los Maxilares, Buenos Aires, Argentina.

October/octobre

Third International Dental Congress on Modern Pain Control, Tokyo, Japan, October 3-6, 1982. Contact: Third International Dental Congress on Modern Pain Control, c/o Japan Convention Services Inc., Nippon Press Center Building, 2-1, Uchisaiwai-cho 2-chome, Chiyoda-ku, Tokyo 100, Japan.

Fédération Dentaire Internationale, 70th Annual World Dental Congress, Vienna, Austria, October 11-16, 1982.

Second International Symposium on Overdentures, San Antonio, Texas, October 15-17, 1982. Contact: Dr. K.D. Rudd, Associate Dean for Continuing Dental Education, University of Texas Health Science Center at San Antonio School, 7703 Floyd Curl Dr., San Antonio, Texas 78284. Phone (512) 691-7451.

The Barbados Dental Association's 2nd Convention for The Caribbean Atlantic Regional Dental Association in conjunction with the Institute for Further Education, Barbados, W.I., December 5-8, 1982. Contact: Dr. Bernard Tuckman, 720 North Park Ave., Easton, Connecticut 06612, U.S.A.

November/novembre

International Congress of the Association Dentaire Francaise, Palais des Congres, Paris, France, November 23-27, 1982. Examining the two main aspects of professional activity — Preventive Dentistry & Therapeutic Care. Simultaneous interpretation in English, French and German will be available during the main scheduled events. Contact: Dr. Guy Roberts, Secretary-General, 92 avenue de Wagram, 75017 Paris, France.

British Dental Association — Metropolitan Branch, First International Prosthodontic Symposium, Royal Lancaster Hotel, London, England, November 25-

27, 1982. Contact: Dr. M. Seymour, Programme Co-ordinator, 22 Devonshire Place, London W1N 1PD, England.

December/décembre

The Sri Lanka Dental Association's 50th Anniversary, Colombo, December 4-1982. Contact: Dr. L.S.W. Dassanayake, Chairman, Organising Committee, Sri Lanka Dental Association, Professional Centre, 275/5, Bauddhaloka Mawartha, Colombo 7, Sri Lanka.

1983 +

9th Congress of Dentistry for Children, Wenworth Melbourne Hotel, Australia, February 21-24, 1983. Contact: Dr. Roger K. Hall, Royal Children's Hospital, Parkville, 3052, Victoria, Australia.

The First International Congress on Dentistry, Medical Law & Ethics, Tel Aviv, Israel, April 11-15, 1983. Contact: Dr. Shmuel Perlmutter, The International Congress on Dentistry, Medical Law & Ethics, P.O. Box 394, Tel Aviv 61003 Israel.

The Canadian Association of Oral and Maxillofacial Surgeons Meeting, Vancouver, British Columbia, June 3-6, 1983. Contact: Dr. Brian M. Abrams, Secretary Canadian Association of Oral & Maxillofacial Surgeons, 410 - 11012 MacLeod Tr.S., Calgary, Alta. T2J 6A5.

Canadian Dental Association, 1983 National Convention, Vancouver, British Columbia, September 25-28, 1983.

Fédération Dentaire Internationale, 71st Annual World Dental Congress, Tokyo, Japan, November 14-20, 1983. Contact: Japan Dental Association, 1-20, Kudan Kita 4-chome, Chiyoda-ku, Tokyo 102 Japan.

Canadian Dental Association, 1984 National Convention, Montreal, Quebec, April 8-12, 1984. Contact: Dr. Morton Lang, O.D.Q., 3565 Berri St., Suite 200, Montreal, Que. H2L 4G3. Phone (514) 842-9112.

Fédération Dentaire Internationale, 72nd Annual World Dental Congress, Helsinki, Finland, August-September, 1984.

Canadian Dental Association, 1985 National Convention, Ottawa, Ontario, September 29-October 2, 1985.

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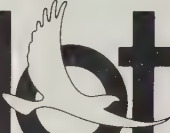
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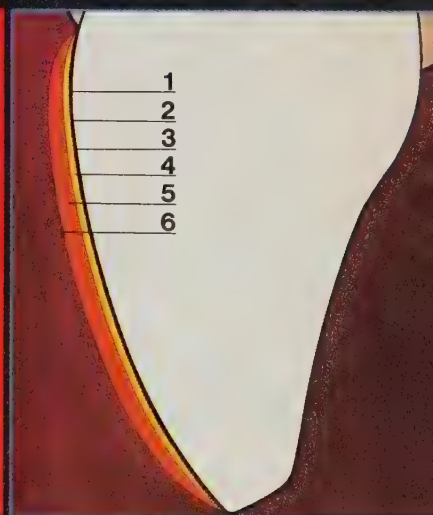
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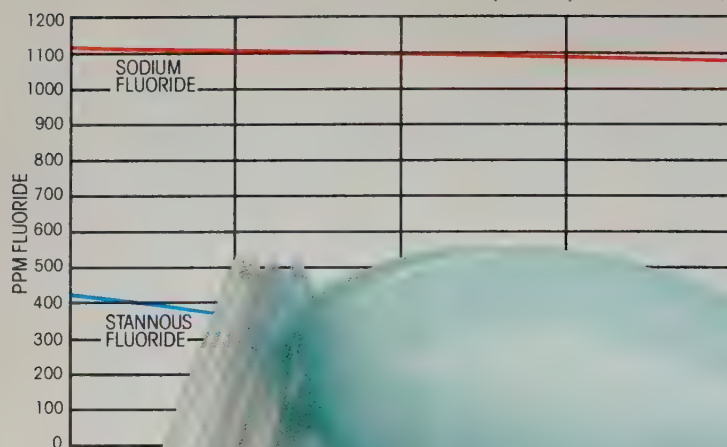
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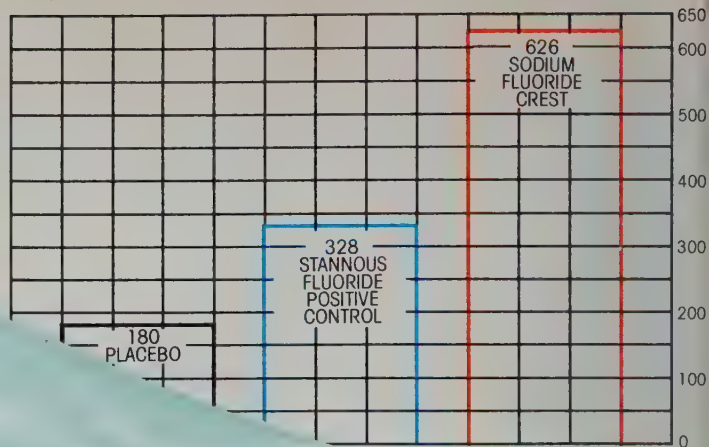
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Editorial

5 Dr. Marshall Peikoff of the University of Manitoba says the field of Endodontics has transformed, in recent years, into a highly predictable endeavour.

Letters

11 Drs. Barbara D. Richardson and P.E. Cleaton-Jones, of Johannesburg, South Africa, believe that Dr. David Kenny's remarks about the "nursing bottle syndrome" problem were oversimplified.

12 Julian Mitchell, government dentist in St. Kitts/Nevis, West Indies, says there is still an "overwhelming need" for dental equipment in the under-developed countries in the Caribbean.

Dentists are doctors in the true sense of the word, says Dr. I. Stangel, and a distinction should not be made between dentists and "doctors" if the latter term refers to "physicians."

Articles

19 **Explanations and implications of recent federal tax revisions**
An Ottawa tax lawyer, Mr. Sidney W. Goldstein, advises that prudent Canadian dentists should immediately review their financial affairs in light of the changes in government legislation and policies made in recent months.

26 **Advertising and the self-regulating professions**
Dr. Wesley J. Dunn cites legal judgements handed down by the British Columbia Court of Appeal and the Supreme Court of Canada, regarding whether a professional society has the power to prohibit commercial advertising by members of that society.

In the News

12 **"Call the President" Day**
The first of four "Call the President" Days, initiated by CDA President Dr. W.R. Thompson, has been termed very successful.

31 **ISO meetings in Vienna**
Dr. Derek Jones, Chairman of the Canadian Advisory Committee ISO/TC 106, reports on the 1982 meetings in Vienna, Austria, held October 18-22.

32 **1983 — Significant year in Manitoba**

A celebration is being planned in Winnipeg in May to mark 100 years of organized dentistry in that province.

34 **Oral health study of elderly a first**

University of Manitoba's Faculty of Dentistry and School of Dental Hygiene are investigating the oral health of Winnipeg's healthy elderly. The study is the first of its kind in Canada.

41 **Briefly**

Dental news items from across Canada and around the world are highlighted.

CDA Directory of officials

35 A complete, up-to-date listing of all CDA officials is provided.

CDA Resource Centre

44 The CDA Library/Resource Centre lists articles available on the subject of Dental Occlusion.

Publications

52 **Webster's Medical Office Handbook**

"Although it is listed as a medical office handbook, it quite clearly is very applicable for dental practice and the advice given applies equally to both." — David B. Shires and G.C. du Bois

Handbook of Pediatric Oral Pathology

"Dr. Budnick has made a good beginning and one would hope that with continued revision and a clearer definition of audience, this book may evolve into a minor but well-recognized text." — R.W. Priddy

53 **The Story of Impacted Wisdom Teeth**

"Dr. Bern received an award for excellence from the American Society of Oral and Maxillofacial Surgeons for the preparation of this patient information kit." — Paul Chapnick

Scientific

57 **Intentional and transitional vital root amputation** — Eli E. Machtei et al

61 **Molar endodontic surgery** — John V. Cambruzzi et al

33 **RRSP**

34 **Obituaries**

68 **Announcements**

70 **Marketplace**

71 **Advertisers' Index**

Recent federal
tax revisions

Advertising
in professions

Endodontics

1983

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Advertising
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Éditorial

- 6 Selon le Dr Marshall Peikoff de l'Université de Manitoba, l'endodontie est devenue une science de plus en plus sûre.

Articles

- 46 **Dernières révisions fiscales — explications et conséquences**
M. Sidney W. Goldstein, expert en droit fiscal d'Ottawa, conseille aux dentistes avisés de réviser immédiatement leurs affaires financières à la lumière des dernières modifications que le gouvernement fédéral a apportées aux lois et politiques fiscales.

Actualités

- 35 **Annuaire des membres du personnel de l'ADC**
L'annuaire des membres du personnel de l'ADC a été mis à jour.

44 Centre de documentation de l'ADC

La Bibliothèque et le Centre de documentation de l'ADC donnent une liste des publications disponibles sur l'occlusion dentaire.

48 La première journée d'appels au président

Selon le Dr William R. Thompson, président de l'ADC, la première journée des appels qu'on lui a adressés a été un succès.

49 En bref

Un tour d'horizon des principales informations dentaires au Canada et dans le monde.

34 Nécrologies

45 REER

68 Avis

70 Petites annonces

71 Index des annonceurs



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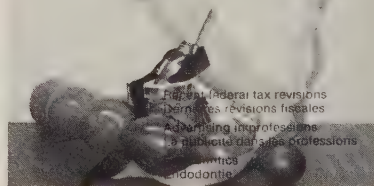
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Journal
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Dernières révisions
fiscales

La publicité dans
les professions

Endodontie

1983



ENDODONTICS: NOW TRANSFORMED INTO A HIGHLY PREDICTABLE ENDEAVOR

Historically, it was not many years ago that endodontics was a haphazard and extremely unpredictable field. Dentists, in making a case presentation to their patients would suggest "let's take a chance and try root canal therapy". The field of endodontics was in its early stages and many of today's concepts were not thoroughly understood.

The role of drugs in the overall scheme of treatment was extremely overrated. Dentists searched for the right drug to sterilize the root canal and cut down the number of appointments required to accomplish this onerous task. Culturing was a mandatory part of proper root canal therapy.

Over the past fifteen years, numerous significant studies have been performed in the area of anatomy of the root canal system. Further to this it was shown that meticulous attention to the cleaning and shaping and subsequent three dimensional obturation of these root canal systems would provide an extremely high degree of success. The only real limitation to this success lay in the ability of the operator, not the case itself.

Thus, in light of these developments, we can see that the field of Endodontics has transformed into a highly predictable endeavor with success rates in the high 90 per cent range. Dentists no longer shuddered at the thought of having to remove a pulp. This is exemplified by the fact

that today, dentists and prosthodontists often elect to do prophylactic or preventive endodontic treatment, rather than risking the construction of a sophisticated restoration on a tooth with a suspect pulp. The tooth can then be properly restored with a post, without fear of future pulpal pathosis and associated periapical disease.

However, it must be stressed that these highly successful predictable results are only attainable by the strict adherence to the aforementioned principles of debridement and sealing of the root canal system.

In this rapidly changing world, there are many new materials, concepts and techniques being introduced to the profession. Many of these claim to provide the ultimate answer with the minimum of effort, time and ability.

With these developments, it is our prerogative, as moral practitioners to keep abreast of current concepts in the literature and, to critically evaluate any new materials or techniques prior to departing from the proven successful methods. In so doing we will continue to raise the standards of clinical endodontic practice.

*Marshall D. Peikoff, DMD, MScD, FRCD (C)
Head, Section of Endodontics
Faculty of Dentistry,
University of Manitoba,
Winnipeg, Manitoba*

L'ENDODONTIE — PRÉVISIONS DEVIENNENT DE PLUS EN PLUS SÛRES

Il y a quelques années, l'endodontie était un domaine où l'on opérait à l'aveuglette et dont les résultats étaient hautement imprévisibles. Le dentiste, lorsqu'il expliquait à ses patients les problèmes dont ils étaient affligés, leur proposait "de prendre une chance et d'essayer un traitement de canal radiculaire." L'endodontie en était alors à ses débuts et plusieurs des idées actuelles étaient mal définies.

Par ailleurs, on surévaluait trop l'importance des drogues dans l'ensemble du traitement. Les dentistes cherchaient quelle était la bonne quantité de drogue nécessaire pour stériliser le canal radiculaire et réduire le nombre de rendez-vous exigés pour faire ce pénible travail. Enfin, on pensait que la culture était une partie essentielle du traitement radiculaire.

Au cours des quinze dernières années, un bon nombre d'études importantes ont été faites touchant l'anatomie du canal radiculaire. À la suite de ces études, on a démontré que si l'on apporte une attention méticuleuse à nettoyer le canal radiculaire, à le former et à effectuer ensuite l'obturation tridimensionnelle, les chances de succès sont extrêmement élevées. Ce qui limite ces chances, ce n'est pas l'état même du patient, mais l'adresse du praticien.

Aussi, à la lumière de ces progrès, pouvons-nous voir que l'endodontie est devenue une science de plus en plus sûre, le moyenne des succès se situant à environ 90 pour cent. Les dentistes ne tremblent plus à l'idée de devoir enlever la pulpe d'une dent. La preuve en est qu'aujourd'hui,

les dentistes et les prothésistes préfèrent souvent effectuer un traitement prophylactique ou d'endodontie préventive au lieu de prendre le risque de faire une restauration compliquée sur une dent dont la pulpe est dans un état douteux. La dent peut alors être proprement restaurée avec un tenon, sans craindre une maladie pulpaire dans le futur ainsi que les maux périapicaux qui y sont associés.

Toutefois, il faut le souligner, on atteindra ces résultats hautement prévisibles seulement si l'on se conforme aux principes déjà mentionnés touchant le débridement et l'obturation du canal radiculaire.

Dans ce monde qui évolue rapidement, des idées, des techniques et des produits nouveaux sont présentés en très grand nombre à la profession. Plusieurs sont censés offrir la réponse définitive avec un minimum d'efforts, de temps et d'aptitudes.

À cause de ces nouveautés, nous nous devons, par éthique, de nous tenir au courant des idées actuelles et d'évaluer avec un oeil critique tout nouveau produit ou toute nouvelle technique avant d'abandonner les méthodes déjà éprouvées. Ce faisant, nous continuerons à élever les normes de l'endodontie clinique.

*Marshall D. Peikoff, dmd, msd, frcd(c)
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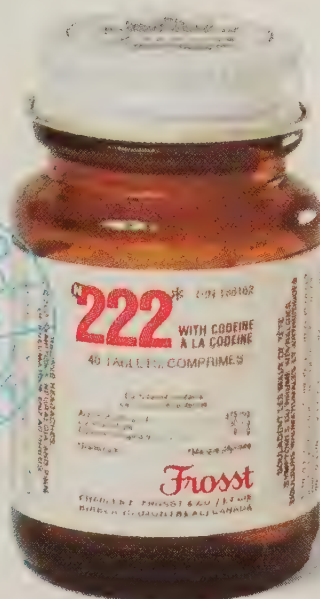
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<i>Fluoridation Officer / Agent de la fluoruration</i>	Lloyd Bowen	(416) 922-3900

Answer to 'Nursing Bottle Syndrome' problem

It was with a growing sense of astonishment that we read the article in your journal (*Canad Dent Assoc J* 48: No. 7; 437, 1982) on an answer to the nursing bottle syndrome. This, Dr. David Kenny has been reported to have said, "is so brutally simple, good oral hygiene from the moment the teeth appear in the mouth." That the nursing bottle syndrome can be prevented by just educating the parents sounds rather like the waving of the magic wand in a fairy story.

The nursing bottle syndrome is actually not 'decay of the primary dentition' as suggested in the article, but rather a type of decay of primary canine and incisor teeth; a more precise term for which is labial caries. The sweetened nursing bottle has indeed been blamed for this condition as has the sweetened comforter². We have been studying labial caries for some years now in four ethnic groups of South African preschool children who show contrasting feeding patterns, and have recorded much detail of sucrose intake as well as infant feeding^{3,4}. We have realised that, in our groups at least, labial caries is not a simple condition.

To summarize our findings, firstly labial caries is as prevalent in Black rural children, 12 per cent, as in White urban children, 12 per cent⁵. Secondly, Black rural children were predominantly breastfed for periods as long as two years and were not given fruit syrups in feeding bottles, in contrast to White urban children, who were predominantly bottlefed and were given fruit syrups in feeding bottles. To further complicate the picture, Black urban children had significantly lower prevalences of labial caries (four per cent) and, as in the case of their rural counterparts, were also breast-

fed and not given fruit syrups. Furthermore, and most importantly, it was found that labial caries was two to three times more prevalent at five years of age than at age two, when it should have been at its highest peak if the nursing bottle was the major aetiological factor. Labial caries seen in older children might be attributed by Dr. Kenny to a 'snacking decay pattern' which is often, he has said, found to be present together with nursing bottle caries. We are not sure whether Dr. Kenny regards 'snacking decay' as a natural follow-up of nursing bottle caries or if they can be present as individual entities.

Dr. Kenny has also suggested that because of the non-treatment of dental caries in the primary dentition, the child will, therefore, be more susceptible to tooth decay as he gets older. This surely does not only apply to the nursing bottle syndrome, but to the more generalised decay of the primary dentition. Again citing from our own studies we would like to challenge this statement. We have found almost as much decay in Black rural and urban as in White five-year-old children with DMFT scores of 3, 4 and 5, respectively^{6,7}. Yet in adolescent groups both Black rural and urban pupils of 16-17 years have excellent teeth with DMFT scores of 1 and 2, respectively, whereas White pupils have a DMFT of 11⁸. In the groups studied there did not appear to be a 'carry over' of decay from the primary to the permanent dentition. A similar observation following longitudinal studies in Scandinavia⁹ has been made in that it was noted that screening based on dental caries at age three had little practical value in the identification of children who would later develop carious lesions in the permanent dentition.

Individual susceptibility to caries is quite another matter and may well be a characteristic carried over from the primary to the secondary dentition, but as far as we are aware such studies have not been undertaken.

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*Barbara D. Richardson, DSc
South African Medical Research
Council, Johannesburg. 2006.*

*P.E. Cleaton-Jones, BDS, MB, BCh,
PhD, DA, DTM & H
Dental Research Institute,
Johannesburg. 2001.*

Dentists and 'doctors'

The November 1982 edition of the Journal contains a bulletin of information in which a paragraph begins with the statement "Dentists, doctors, lawyers...".

Although a trivial but significant point, I was amazed to read that the organization that represents the dentists of Canada errs by distinguishing between dentists and doctors rather than dentists and physicians. One of the major goals of professional education is to train individuals to prevent and treat disease of the oral cavity. The degree conferred upon completion of such a program is a Doctor of

Dental Surgery or Doctor of Dental Medicine. Dentists are doctors in the true sense of the word.

The implication inferred from the continued use of the term "dentists and doctors" propagates a poor image of dentists and dentistry and fails to recognize the achievements of dental education and the profession. I trust that this was an oversight on the part of the editors.

*I. Stangel, D.M.D.
Associate Professor
Division of Prosthodontics
McGill University
Montréal, Québec*

Caribbean relief

I read the article on Bob McAllister's relief project here in the Caribbean with great interest.

There is an overwhelming need for equipment in these undeveloped territories and we are very grateful for someone like Mr. McAllister to help us obtain equipment for the various dental programs that are being set up at this time.

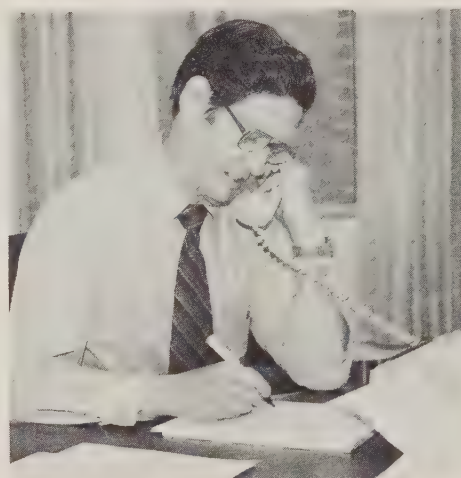
As Regional Dental Officer to the English Speaking Eastern Caribbean I have visited most of the Government Dental Services and have in fact been supplying Bob McAllister with the information on the various needs etc. In my review, carried out in February of this year, I discovered 29 dentists or dental auxiliaries who are in established Government Posts, but who do not have the basic equipment for conservation and this inability has a serious and deleterious effect on morale particularly of the younger professionals.

If any questions arise concerning the actual individual needs of the various Islands etc., please do not hesitate to pass them on to me at the address below, and I will do my best to get the answers.

Thank you again for the article.

*Julian Mitchell,
Government Dentist, St Kitts/Nevis.
P.O. Box 236
Basseterre
St. Kitts, W.I.*

First 'Call the President' Day termed a success



Dr. W.R. Thompson, President of the CDA, is seen answering a call during the first "Call the President" Day.

The first "Call the President" Day on November 23 last, was termed very successful by its initiator, Dr. William R. Thompson, President of the Canadian Dental Association.

Several of the 15 calls from seven corporate body areas were concerned with membership in the CDA. Other subjects discussed by callers included: audits and Revenue Canada, manpower, the benefits for salaried dentists and their specific membership category, the CDA Journal, CDSPI and insurance in general, FDI, specialty sections and the Caribbean

dental relief project.

Dr. Thompson indicated that certain calls raised matters that warrant further discussion at Executive Council or by referral to Councils and Committees.

One indicated that CDSPI should give more comparison examples by both marital status and different age groups, to indicate the benefits of CDSPI plans over other available coverage.

Another felt that the CDA Journal, because of its two-language aspect, was much too repetitive, particularly in the area of pictures.

It was possible to provide satisfactory discussion on all the questions, Dr. Thompson said, and he believed the inaugural event had fulfilled its purpose.

Three more "Call the President" Days have been scheduled. The next date is February 15, and the following two will be on April 19 and June 7. CDA members are encouraged to express their views.

Those who wish to take advantage of the service may call collect to (613) 523-1770, between the hours of 8.30 a.m. and 4.30 p.m. (Eastern Standard Time).

FEDERATION DENTAIRE INTERNATIONALE MEMBERSHIP

Membership in the Federation Dentaire Internationale for 1983 is now open for new or renewed membership. Supporting membership from Canada and attendance at the Vienna Congress in 1982 was significant and it is hoped that such support will continue. After the March 1983 issue, only those who renew their membership will continue to receive the Newsletter and in addition, it is necessary to be a supporting member to attend the outstanding Congress planned for Tokyo, Japan on November 14-20, 1983.

Registrants to FDI world congresses must be supporting members of the Federation. To be eligible for supporting membership, Canadian dentists must be members of the Canadian Dental Association.

The subscription fee is \$35 (Canadian) or in combination with a subscription to the International Dental Journal \$60 (Canadian). We urge you not only to become a member but to encourage your colleagues to join as well.

Your membership fee is your contribution in support of FDI in its efforts to promote improved dental health on a worldwide basis in direct exchange of scientific knowledge and expertise. A portion of the fee will also be used by the CDA to offset administrative expenses associated with the FDI membership program.

Please return the attached form with your remittance without delay to the Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6.

Application forms for the Tokyo Congress will be sent with your receipt and 1983 membership card.

CANADIAN DENTAL ASSOCIATION
1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6

MEMBERSHIP APPLICATION FEDERATION DENTAIRE INTERNATIONALE

- To develop contacts with dentists from around the world
- To be part of your profession's voice in the international community
- Fees include administration cost, U.S. premiums, CDA representation to FDI

_____ \$35 FDI Supporting Membership will receive the Quarterly FDI Newsletter and Membership Card

_____ \$60 FDI Supporting Membership and Subscription to International Dental Journal

NAME _____ ADDRESS _____

THIS IS NOT A LICENCE FEE, this is your remittance for annual supporting membership.

Please return this form with your remittance payable to CDA. A receipt and membership card will be issued.

ADHÉSION À LA FÉDÉRATION DENTAIRE INTERNATIONALE

On peut maintenant se joindre à la Fédération Dentaire Internationale ou y renouveler son adhésion pour l'année 1983. En 1982, le nombre des membres de soutien canadiens était remarquable et plusieurs d'entre eux ont participé au Congrès tenu à Vienne. On espère que les dentistes canadiens continueront à appuyer la F.D.I. en très grand nombre. Seuls ceux qui renouvelleront leur adhésion continueront à recevoir le Bulletin de la F.D.I. après le numéro de mars 1983. Rappelons qu'il faut être membre de soutien de la F.D.I. si on désire assister au Congrès qui aura lieu à Tokyo, au Japon, du 14 au 20 novembre 1983.

Les personnes voulant participer à ce congrès mondial doivent être membres de soutien de la Fédération, et pour pouvoir être membres de soutien de la F.D.I., les dentistes canadiens doivent être de l'Association dentaire canadienne.

Pour se joindre à la F.D.I., la cotisation de 35\$ canadiens, et de 60\$ canadiens si l'on désire recevoir en plus le Journal dentaire international. L'Association dentaire canadienne vous exhorte non seulement à vous joindre à la F.D.I., mais aussi à encourager vos collègues à s'y joindre.

En devenant membre de la F.D.I., vous donnez votre appui à un organisme dont le but est d'améliorer la santé à l'échelle mondiale conjointement avec l'Organisation mondiale de la santé et grâce à des échanges de connaissances scientifiques sur le plan international. Une partie des frais de cotisation sert également à couvrir les frais d'administration encourus par l'A.D.C. en rapport avec le programme de recrutement de la F.D.I..

Veuillez remplir le formulaire ci-joint et le retourner avec votre contribution à l'Association dentaire canadienne, 1815, promenade Alta Vista, Ottawa (Ontario) K1G 3Y6.

Les formulaires d'inscription au congrès de Tokyo vous parviendront avec votre reçu et votre carte de membre pour l'année 1983.

L'ASSOCIATION DENTAIRE CANADIENNE
1815, promenade Alta Vista, Ottawa, (Ontario) K1G 3Y6

DEMANDE D'ADHÉSION À LA FÉDÉRATION DENTAIRE INTERNATIONALE

- Pour établir des contacts avec des dentistes du monde entier
- Pour devenir un représentant de votre profession dans la communauté internationale
- Ces montants couvrent également les frais d'administration, le prix du change sur la monnaie américaine et les frais de représentation de l'ADC auprès de la FDI

_____ \$35 Membre de soutien de la FDI et abonnement au bulletin trimestriel.

_____ \$60 Membre de soutien de la FDI et abonnement au Journal Dentaire international

NOM _____ ADRESSE _____

CES FRAIS NE S'APPLIQUE PAS AUX PERMIS D'EXERCER. Il s'agit d'un avis pour votre cotisation annuelle comme membre de soutien de la FDI. On vous prie de retourner ce formulaire rempli, avec un chèque ou un mandat payable à l'ADC; vous recevrez un reçu et votre carte de membre par le retour de courrier.

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TODAY'S COLGATE: TWO FLUORIDE REMINERALIZATION.

Today's Colgate was developed on the principle that if a toothpaste combines two fluorides which act differently, it may provide enhanced remineralization over a single fluoride toothpaste. We believed this would result in fewer cavities for your patients than ever before.

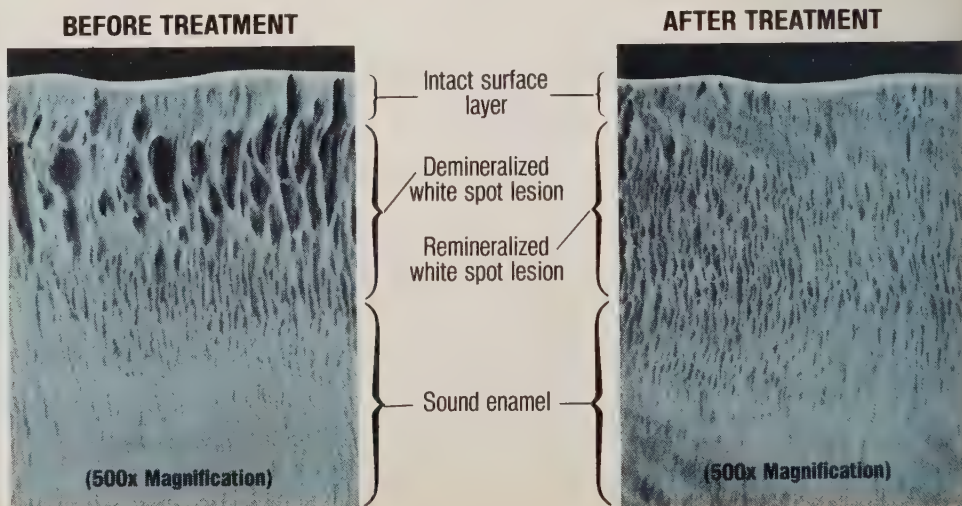
REMINERALIZATION.

Remineralization is the reversal of the demineralization process before a white spot lesion becomes a cavity (1). Studies have indicated that the presence of fluorides in demineralized enamel improves the natural remineralization process (2-5).

COLGATE'S TWO FLUORIDE STUDY.

In vitro studies (6) on demineralized enamel show that treatment with Colgate's combination of sodium monofluorophosphate and sodium

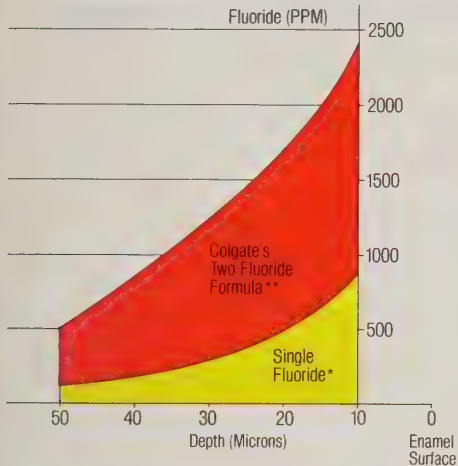
fluoride** actively promotes more complete remineralization of white spot lesions than a single fluoride formulation.* This improved remineralization of white spot lesions, we believe, ultimately leads to a greater reduction in cavities.



HOW TWO FLUORIDES REMINERALIZE MORE COMPLETELY.

Laboratory research shows that Colgate's combination of sodium monofluorophosphate at 0.76% and sodium fluoride at 0.10% delivers significantly more fluoride deeper into demineralized enamel, thus providing superior conditions for remineralization.

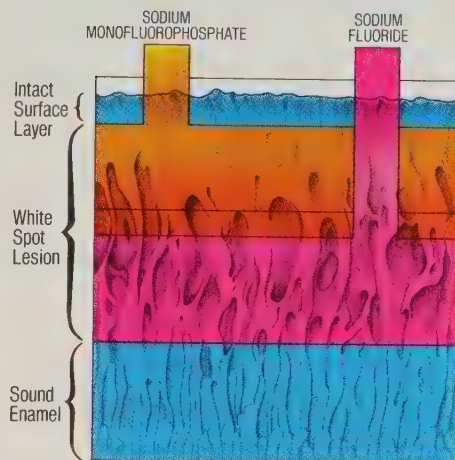
FLUORIDE UPTAKE BY DEMINERALIZED ENAMEL



Within the white spot lesion, sodium monofluorophosphate remineralizes enamel primarily at the surface while sodium fluoride penetrates deeper to remineralize sub-surface regions. This combined remineralizing action

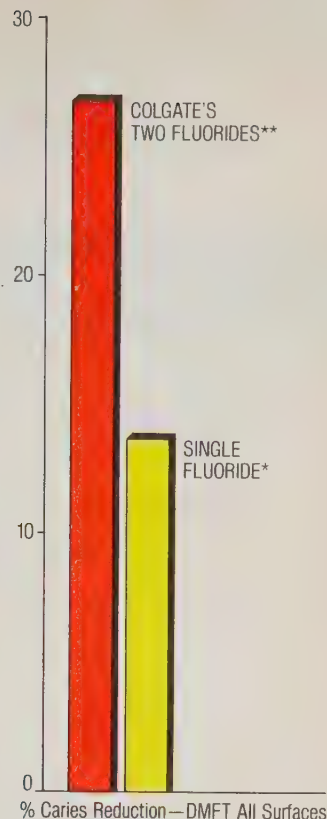
of Colgate's two fluoride formula promotes more complete remineralization of white spot lesions than a single fluoride formulation*.

REMINERALIZATION ACTION OF COLGATE'S TWO FLUORIDES



COLGATE'S CLINICAL PROOF.

The results of a three year clinical study (7) show that Colgate's combination of two fluorides provides significantly greater reduction in caries. In vitro research indicates that this results from more complete remineralization of white spot lesions before they progress to cavities.



IS THIS PART OF YOUR OHI?

We believe that Colgate's two fluoride formula is an innovation in preventive dentistry. By including Colgate in your Oral Hygiene Instruction, you will be recommending cavity protection that you can trust.

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* Sodium monofluorophosphate (0.76%)

** Sodium monofluorophosphate (0.76%) and sodium fluoride (0.10%)



† "Colgate Toothpaste contains sodium monofluorophosphate and sodium fluoride which are, in our opinion, effective decay preventive agents and are of significant value when used in a conscientiously applied program of oral hygiene and regular professional care."

Canadian Dental Association



PARTNERS IN PREVENTIVE DENTISTRY.

If you're insured through the Canadian Dentists' Insurance Program

1982 was another very good year

Here is a summary of the improvements to the Canadian Dentists' Insurance Program announced or implemented in 1982:

Life Insurance

- 10% premium reduction effective Jan. 1, 1982
- 10% coverage increase for participants, without medical evidence, effective Jan. 1, 1982.
- introduction of "instant cash on death" provision.

Long-Term Disability Insurance

- coverage and benefits extended past age 65
- cost-of-living option effective Jan. 1, 1982, providing annual increase of 10% of original benefit amount
- \$500 monthly indemnity made available, without medical evidence, effective Jan. 1, 1982.

Office Overhead Insurance

- \$500 additional monthly indemnity made available without medical evidence, effective Jan. 1, 1982.

Office Contents Insurance

- automatic 10% coverage increase provided, effective July 1, 1982.

General Liability Insurance

- announcement of higher coverage limits effective Jan. 1, 1983.

Malpractice Insurance

- announcement of higher coverage limits effective Jan. 1, 1983.

Insurance For Students and Auxiliaries

- improved introductory package for new graduates, resulting in highest enrolment of new graduates ever recorded
- improved auxiliaries' package announced

General Improvements

- more toll-free phone lines installed to provide better service on insurance inquiries.

These improvements were possible because your profession's own insurance plan puts your interest first. And already we're planning for next year's improvements.



**Canadian
Dentists'
Insurance
Program**

*Personal insurance service is as near as your telephone.
For information on any insurance problem call CDSPI's
Central Information Service anytime:*

1-800-268-5418 Western Canada, Atlantic Canada,
and Ontario Area Code 807
1-800-268-3411 Quebec and Ontario **except** Area
Code 807
497-7117 Metro Toronto

Explanations and implications of recent federal tax revisions since Nov. 12, 1981

*Sidney W. Goldstein

Prudent Canadian dentists should immediately review their financial affairs in the light of changes in the legislation and government policy over the last year.

We have seen two budgets, several press releases, and an "economic statement" since November 12, 1981. Several proposals in the Budget of November 12, 1981 would have had substantial negative consequences to many Canadian dentists. The subsequent announcements have either removed some of those proposals or severely modified them.

THE DENTIST AND DENTAL PLANS

On November 12, 1981 it was proposed that contributions by employers to private dental plans would be taxable to the employees covered by those plans. As a result, in part, of submissions to the Department of Finance and various parliamentary committees, emphasizing the negative impact upon the level of dental care in Canada and upon the incomes of dentists in Canada, this proposal was withdrawn in the announcement of October 27, 1982.

The Dentist purchasing depreciable business assets

The November 1981 Budget proposed that taxpayers (including dentists) who acquired depreciable property such as real estate, automobiles, furniture, equipment, small tools and utensils, used to gain or produce business or professional income would in the first year of acquisition be restricted to claiming capital cost allowance at only half the rate normally available. In other words, assuming that a practitioner acquired office equipment

which would be normally depreciable at a normal rate of 30 per cent, the dentist would be limited to claiming 15 per cent deduction in the first year.

Subsequent announcements exempted small tools and utensils from this restriction, however the restriction will apply for 1982 and following years in all other cases.

These changes suggest that where a dentist anticipates the need to purchase such property in his next fiscal year he may be better off to buy the property "early".

Where a dentist has a fiscal year end of say, March 31, 1983, and anticipates a requirement to buy new furniture, equipment or a business automobile later in 1983, he may be better off to make the purchase "early" prior to March 31, 1983. If the property costs \$5,000 and is in a 30 per cent capital cost allowance class, the purchase before March 31st will give him a deduction for his 1983 tax year of 1/2 (30 per cent of \$5,000) or \$750 and for his 1984 tax year of \$1,275. If he buys after March 31, 1983, he will get no deduction for 1983, \$750 for 1984, and \$1,275 for 1985.

The Dentist with employees

As a result of an announcement on October 27, 1982, the rate of Canada Pension Plan contributions and Unemployment Insurance contributions to be made by employers and employees will increase by approximately 50 per cent commencing in 1983. For dentists with salaried staff, this represents a significant tax increase for both the employees whose take home pay will be reduced, and for the dentists who will be required to pay additional sums to

*Mr. Goldstein is a tax lawyer practising in Ottawa, Ontario.

the government as the dentist's contribution. These deductions can be particularly significant where a dentist has a salaried hygienist and/or a dentist on staff.

THE DENTIST AND MANAGEMENT CORPORATIONS

As has been indicated in recent comments in the Journal, a significant review of the status of management companies has been undertaken by Revenue Canada and reassessments are being issued. In addition, the November 1981 Budget may provide Revenue Canada with an additional weapon to assist them in their "obvious" objective of eliminating all management companies in Canada. The new concept of the "personal services business" appears to cover situations where a dentist's spouse owns a management corporation and the spouse actually provides services to the dentist on the corporation's behalf.

Any corporation that carries on a "personal services business" will have the profit from that business taxed at approximately 50 per cent. The profit will be calculated by taking the gross revenue of the personal services business and deducting from that only salaries or other employee benefits paid to the individuals who provided those services.

Where a dentist's spouse owns the corporation and does not provide any actual services, the corporation will be entitled to deduct all salaries *other than a reasonable (presumably nominal) salary to the spouse*, and other expenses and the net profit will be taxed at approximately 33 1/3 per cent.

Thus, where a dentist's spouse owns shares in the management corporation, and provides actual services to the dentist personally on behalf of the corporation, it may be that expenses such as telephone expenses of the management company, automobile expenses of the management company, interest expense of the management company, etc. will **not** be deductible and the tax rate applicable will be 50 per cent. Where the risk of this characterization is present serious consideration should be given to the spouse not providing services through the corporation but rather the spouse should be employed directly by the dentist.

Interestingly, if the management corporation is owned by the spouse who does not provide any services at all or who is employed directly by the dentist, the corporation may not be regarded as carrying on a "personal services business". In such a situation, however, the profits are restricted to the mark-ups that can be charged on the dentist's expenses. Of course, given the restrictions on the

"mark-ups" that a management corporation will be entitled to charge the dentist (in the light of Revenue Canada's assessment policies), the amount of income that can be "diverted" from the dentist to the management corporation is limited.

All in all, it appears that many dentists will be better off to discontinue management corporation arrangements where their families are involved.

The Dentist and his tax rates

As a result of the November 1981 Budget, the "top" tax rate has been reduced by approximately 12 per cent depending on the province. For 1982, the "old" tax rates would have required an Ontario dentist to pay tax on taxable income between \$53,376 and \$86,736 at the rate of 52.56 per cent; on taxable income between \$86,736 and \$133,440 at the rate of 56.94 per cent, and on taxable income in excess of \$133,440 at a rate of 62.78 per cent. As a result of the changes in schedule, an Ontario dentist will have to pay tax on taxable income in excess of \$53,376 at the rate of "only" 50.32 per cent.

The reduction in the top rate represents a massive "gift" and also reduces the attractions of tax shelters since obviously the "cost" of not sheltering one's income has been reduced.

The Dentist who borrows for investment

In the November 1981 budget, it was proposed that interest paid in respect of investments would only be deductible against investment income in the year. Excess interest expenses could be "carried forward" to be matched against investment income generated in future years. This proposal was to prevent taxpayers from borrowing for investments that were not producing current income, but would produce substantial profit later on, possibly at capital gains rates, and permit the investor to deduct all of the "excess" current interest against other (e.g. professional) income. Thus, investors were obtaining current deductions at full rates and deferring the tax on the profits from the investment and then the profits might only be taxable at half rates.

Subsequent announcements would have allowed substantial exemptions to this rule which for practical purposes would have restricted its application to new acquisitions of real estate investments (such as MURBS) only. On October 27, 1982, this entire proposal was withdrawn.

However, interest expenses for loans made to contribute to registered retirement savings plans will no longer be deductible under any circumstances.

The Dentist and real estate investments

For real estate, and particularly MURBS, "soft costs" incurred prior to the completion of the construction of a building will in future no longer be deductible currently as an expense. Instead, the "soft costs" will be added to the cost of the land or the capital cost of the building and will only be deductible as capital cost allowance over time, and go to reduce the ultimate capital gains. A number of special rules apply to exempt projects which commenced prior to 1982 but may not be completed for some time. As with depreciable property for business purposes, acquisitions of investment real estate will only entitle the purchaser to 1/2 the normal capital cost allowance in the year of acquisition. As noted above, all interest expense will be fully deductible.

The Dentist selling property

On the sale of real estate or other capital property in future, where the taxpayer gives back a mortgage or other receivable, the full gain on the property must be brought in and taxed within five years with **at least** 1/5 of the gain taxed each year even if the dentist has not been fully paid in cash within the five years.

Where property is sold taxpayers will have to insure that the sale price is paid more quickly or they could find their tax bills exceeding the cash they receive in the years immediately after the sale.

The income averaging annuity contract which permitted taxpayers to spread substantial capital gains or other specified types of income over a number of years has been abolished.

The "automatic" general averaging rules which basically permitted a taxpayer whose income was rising dramatically (i.e. a dentist in the yearly years of his practice) to "spread back" the income over the previous four years. This rule has been abolished and has been replaced by a new "forward averaging" rule which permits a taxpayer to

pay tax at the top rate currently on any portion of his income and in a subsequent year when his income drops, have the income averaged with the subsequent year. Most taxpayers should make such an election on any taxable income subject to the top rates.

The Dentist who owns shares in a Canadian controlled private corporation

As a result of a series of amendments since November 12, 1981, where a taxpayer has an interest in a corporation that is entitled to the full small business deduction (i.e. approximately 25 per cent tax rate), then for income generated in taxation years commencing after 1982, the shareholders will only be able to receive the profits of the corporation as dividends if the corporation pays a "distribution tax" which is designed to ensure that the corporation will pay a total tax of at least 33 1/3 per cent of its small business profits. This provision will affect most Canadian controlled private corporations in which a dentist may be involved including "broad based management corporations" which service numerous dentists and incorporated medical-dental buildings.

The Dentist's home and cottage

From 1982 forward, only one principal residence will be allowed to a husband and wife and minor children so long as they remain a family unit. Thus, where in the past a husband might own a city residence and a wife might own a cottage property and both could be expected to receive principal residence exemptions, from 1982 forward only one will be eligible.

CONCLUSION

Many of the more onerous 1981 tax proposals have been ameliorated or eliminated and the drop in marginal rates will be a boon to most dentists. However dentists who had anticipated re-arranging their affairs to take into account changes which have been abandoned or modified will have to again re-think their planning.

Remember also that there remain many tax planning arrangements such as investment income splitting which have not been affected by recent changes.

One further note — a new budget is expected early in 1983! Happy New Year.

WARNING!

ALL APEX LOCATORS ARE NOT NEOSONOS X-RAYS ARE WRONG—NEOSONO IS RIGHT

The principle behind all electronic apex locators is the same. This principle, published by Sunada in 1962, showed that the electrical resistance of the periodontal ligament has a constant value. Electronic apex locators attempt to measure electrical resistance in a root canal and compare the resistance to a reference value. However, there are hundreds of possible circuits that can attempt to measure the small changes in resistance over a distance of one-tenth of a millimeter. Only the Neosono line circuitry has been clinically tested over an 11 year period. In these studies the canals were often measured both by x-ray and with our apex locator. The teeth were then extracted with the reamer in place. The accuracy was found to approach 100% in the studies. In one such study published in the Journal of Endodontics¹ the device was 100% accurate, while x-rays were wrong 37% of the time in the same canals. Other apex locators use simplified, less sophisticated, circuitry which may be capable of providing resistance measurements to estimate the length in certain cases, such as when the canal is completely cleaned and dried. Compare this limitation to the Neosono circuitry which was shown in a clinical study published in "Triple O"² to produce 100% accuracy without prior removal of the pulp or drying the canal. Imitation units have been unable to produce any comparable clinical studies. The Neosono circuitry is sophisticated enough to screen out the complex electrical signals present if pulp or debris is present.

What are some of the unique features of the Neosono, developed over the last 12 years, that imitators don't provide?

	Neosono	Imitators
1. Published clinical studies (11) proving accuracy.	Yes	No
2. Published studies showing accuracy with pulp present.	Yes	No
3. Provide the distance, in tenths of a millimeter, from apical foramen.	Yes	No
4. Ability to set circuit to stop at preset distance (e.g. 1/2mm short), not just a range of 1 mm.	Yes	No
5. Ability to get exact length without looking at device via audible signal (visual reading also available).	Yes	No
6. Different audible and visual signal if reamer passes apex. Avoids overinstrumentation.	Yes	No
* 7. Ability to obtain length with nothing attached to reamer.	Yes	No
8. Avoid calibrating unit each time device is used.	Yes	No
9. Ability to compensate for variations in patient resistance.	Yes	No
10. Does not require large, cumbersome lip attachment (miniaturized ground).	Yes	No
11. Does not require electrical isolation of patient from chair, etc.	Yes	No
12. Made and serviced in U.S.A. by manufacturer.	Yes	No
**13. Models with all 12 unique features above starting at \$399.	Yes	No



Plus—The NEOSONO-D with

14. Ability to read the distance from apical foramen directly on a screen in millimeters (to 1/10th mm).	Yes	No
--	-----	----

Imitation may be the most sincere form of flattery, but we are not flattered when people are confused and disturbed by the poor performance of limitations, especially since we have spent 11 years perfecting the real thing.

Now available new accessory for Neosono. Plastic insulating sleeve simplifies use on teeth having metallic restorations.

To receive some of the 11 published clinical studies call Sales department collect (609-429-8297) or write amadent, Box 3422, Cherry Hill, N.J. 08034.

Ask about our unique trade in program on all apex locators. Units priced from \$399.00

¹Journal of Endo., Vol. 2, No. 7, July 1976, p. 215.

²Oral Surgery, Oral Medicine, Oral Pathology, Vol. 38, No. 3, Sept. 1974, pp. 469-473.

Also see "joltless" pulp tester, Madajet, and new Adalite fiberoptics to attach to your handpiece at the Chicago Midwinter Meeting, Booths 62, 209, 720, 1118, 3300, and at every national, state, local and Canadian convention. See programs for booth numbers.

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Advertising and the self-regulating professions

Wesley J. Dunn* DDS, FACD, FRCD(C) (Hon.)

INTRODUCTION

Of very great significance to the ten Canadian provincial dental licensing authorities and to the dentists licensed and regulated by them are the judgments pronounced on August 9 1982 by the Supreme Court of Canada in actions involving the Law Society of British Columbia. The judgments essentially confirmed those earlier made by the British Columbia Court of Appeal to the effect that the Benchers of the Law Society of British Columbia (the twenty-three members elected by the Society's membership who together with the Attorney-General of the province, as an *ex-officio* member, govern the society) have very broad powers. They may prohibit any conduct that in their opinion is contrary to the best interests of the public or the profession. This includes the power to prohibit commercial advertising by members and to discipline those members who disregard the prohibition. In addition, it was confirmed that the Benchers, in prohibiting commercial advertising, do not commit the offence of conspiring to lessen competition unduly in the supply of legal services in British Columbia contrary to Section 32 of the *Combines Investigation Act*. This Act does not apply to regulatory arrangements validly established by provincial legislation. Such schemes are not prohibited by the Act. The conduct of those who make the regulations is not made an offence and compliance with such rules does not constitute a crime.

At the time of the release of the Supreme Court of Canada judgments it was not difficult to infer from the headlines—and, to some extent, to the content—of some of the newspaper articles that the Supreme Court had apparently ruled against commercial advertising by lawyers. It did no such thing. None of the courts—the British Columbia Supreme Court, the British Columbia Court of Appeal, or the Supreme Court of Canada—pronounced on that issue, at all. In fact, all three were at pains to confirm that the questions as to whether or not lawyers should be permitted to advertise or the effect of advertising on the price and quality of legal services were not issues in the

action. The courts were concerned only with whom is to answer the question and whether it is federal or provincial legislation that is to govern the issue.

Well, why did this matter reach the Supreme Court of Canada as it did in May 1981? To answer that question we must return to two separate but related actions which had their beginnings early in 1978.

THE JABOUR CASE

In late January 1978, Donald E. Jabour, a member of the Law Society of British Columbia, published four advertisements in local newspapers in and around Vancouver. The advertisements were in the following form:

DONALD E. JABOUR

Barrister & Solicitor wishes to announce the opening of a new concept of law office

LEGAL SERVICES AT PRICES
MIDDLE INCOME FAMILIES
can afford

Buying or selling a home. Writing a will.
Motor vehicle accidents or offences.
Landlord/tenant problems. Family matters.
Incorporations. Estates. Court appearances.

These are the kinds of situations where middle income families need legal assistance. Now it is available at moderate cost, with pre-set fees for many services.

Some sample fees (excluding out-of-pocket expenses):

Simple will	\$ 35
Uncontested Divorce . . . from	\$195

*Professor, Division of Community Dentistry
Faculty of Dentistry
The University of Western Ontario
London, Ontario

Advice on Interim Agreements	\$ 25
Purchase of Home (any value)	\$175
Incorporations . . . from	\$165
Advice on Consumer Contracts	\$ 15
Review your present will	Free

INITIAL CONSULTATION FREE

Opening February 1st, 1978

The North Shore 142A W. 15th St.,
NEIGHBOURHOOD North Vancouver
LEGAL CLINIC 936-4225

HOURS: 9 a.m. to 5 p.m. As a convenience to
clients we will also be open Wed. Eve. 7 to
9 p.m. Sat. from 10:30 a.m. to 1 p.m.

Call or write for free brochure

He also installed, on the exterior of the building in which his office is located, an illuminated sign measuring three feet in height by sixteen feet in length. It displayed the words, "The North Shore Neighbourhood Legal Clinic, Donald E. Jabour, Barrister and Solicitor".

Before the advertisements were placed, Mr. Jabour had been in correspondence with the Treasurer (Chief Executive Officer) of the Law Society indicating his intention to advertise. His letters indicated that he knew the proposed advertisements were not within the guidelines and, accordingly, "the existing rules will have to be changed to accommodate my activities". Mr. Jabour was probably not surprised to learn that the rulings had not been amended when the advertisements appeared two weeks later.

On February 14, 1978, Mr. Jabour was given notice of a hearing to be conducted by the Society's Discipline Committee. On May 12 1978, the Committee found Mr. Jabour to be guilty of conduct unbecoming a member of the Society. Eleven days later it was recommended that he be suspended from the practice of law for six months. Mr. Jabour successfully sought an order in the Supreme Court enjoining the Law Society and the Benchers from proceeding with consideration of the Committee's report pending the disposition of court action.

Advertising by British Columbia lawyers had the attention of others. Following a sporadic exchange of communications over a two year period and after the report of the Discipline Committee had been issued, the Director of Investigation and Research of the Combines Investigation Branch made application to the Restrictive Trade Practices Commission for an order that the Secretary of the Law Society be summoned and examined before the Commission. In the application, the Director set out certain matters concerning Mr. Jabour who by now, as has been said, had been cited by the Benchers for advertising

and had been found guilty, by a hearing committee, of conduct unbecoming a member of the Society. The Director expressed the belief that the Law Society and its Benchers had committed an offence under section 32 of the *Combines Investigation Act* by its alleged prevention of competition in the delivery of legal services.

On the same date, May 15 1978, the Secretary of the Law Society received a letter from the Restrictive Trade Practice Commission wherein he was required and ordered to attend before the Acting Chairman of the Commission, the following 29 May, to give evidence under oath and to produce certain books and documents, together with letters, memoranda, citations, and the like, relating to the citation issued to Donald E. Jabour and to the citation issued to another lawyer who had been cited for making statements in the media promoting his practice. The enquiry was postponed pending the determination of the action in the B.C. Supreme Court.

At this time, then, the Law Society found itself in litigation as a defendant in the Jabour action and as plaintiff in its action against the Attorney-General of Canada, Restrictive Trade Practices Commission. By the agreement of counsel these two essentially separate actions were tried consecutively. It was further argued that evidence led in one action which was common to both was to be evidence in the other action as well.

Supreme Court of British Columbia

There were three issues to be determined by the court.

Issue No. 1

"Are the policies and Rulings of the Law Society of British Columbia and the Benchers and Members thereof with respect to advertising by members, and in particular but without restricting the generality of the foregoing, Part A, Ruling 1 (5)(3) and Part C, Rulings 1, 6 and 10 of the Professional Conduct Handbook (rulings relating to announcements, advertising, and signs), published by the Law Society of British Columbia null and void, or alternatively unenforceable being in violation of the fundamental right of freedom of speech in Canada?"

Issue No. 2

"Does the *Combines Investigation Act* . . . apply to the (Law Society of British Columbia) in connection with the (Society's) prohibition or regulation of advertising?"

Issue No. 3

"Are the provisions or any parts of the *Combines Investigation Act* . . . *ultra vires* (beyond the authority of) the Parliament of Canada insofar as they purport to apply to the Law Society of British Columbia?"

The trial judge on April 11 1979, responded to the issues in the following way:

Continued on next page

Issue No. 1

"The policies and rulings of the Law Society of British Columbia and the Benchers with respect to advertising by members are not authorized by any provision in the *Legal Professions Act*. Having reached this conclusion, it becomes unnecessary for me to deal with the alternative matter in the issue as framed."

Notwithstanding the above response to issue number one, the trial judge offered the following observation:

"Although the Benchers, in my view, do not have the statutory authority to impose this blanket restraint on advertising by members of the Law Society, the Benchers do have not only the authority, but also the duty, to ensure that any advertising by a lawyer does not depart from the standards set out by the Benchers in matters of competence, honesty, integrity, and quality, nor bring the profession into disrepute."

Issue No. 2

"There being no specific nor implicit authorization in the *Legal Professions Act* for the defendants to impose what I have found to be a blanket restraint tantamount to a complete prohibition of advertising by members of the Law Society to the public at large, the *Combines Investigation Act* does apply to the defendants."

Issue No. 3

"... the provisions of the *Combines Investigation Act* and amendments thereto are not *ultra vires* the Parliament of Canada."

As a consequence of the above responses, the court declared, in the Society's action against the Attorney-General of Canada, Restrictive Trade Practices Commission, that "the declarations sought by the Law Society of British Columbia are refused and the action is dismissed". The action brought by Jabour was successful.

British Columbia Court of Appeal

The scene now shifts to another stage. The actors are the same but their roles are different. The Law Society becomes the appellant in both actions with Jabour and the Attorney-General of Canada, Restrictive Trade Practices Commission acting as separate respondents. The issues to be addressed were appeals by the Law Society of British Columbia from a judgment by Mr. Justice MacKoff in two matters, in one of which the Law Society's action for a declaration that the *Combines Investigation Act* (Can.) does not apply to the Law Society of British Columbia or its members, was dismissed, and in the other, certain issues arising in an action by a member of the Law Society (Jabour) against the Law Society were decided in favour of the member.

The Court of Appeal consisted of Messrs. Justice Seaton, Lambert, and Hutcheon, the unanimous judgment of the court being delivered by Mr. Justice Seaton. Again, by agreement, the appeals were heard together.

The Appeal Court was almost totally divergent in its opinions from those promulgated in the court below. "Inherent in the reasons of the trial Judge", the appeal court observed, "is the view that the Discipline Committee's finding that Mr. Jabour was guilty of conduct unbecoming a member of the Society is now outside the allotted sphere of the Benchers. I can see nothing in the *Legal Professions Act* that would justify the conclusion that the Benchers are authorized to regulate advertising but not to prohibit advertising. . . . The Benchers are authorized to regulate the practice of law. In the course of that they cannot prohibit the practice of law but they can prohibit other things. . . ."

The respondents, in their submissions, averred that the *Legal Professions Act* was simply an Act to provide a licensing system to regulate competency and to police the integrity of those entitled to practise law. The appeal court took the view that the Act authorizes much more than that. The Benchers, it was contended, are not restricted to competency and integrity. And after quoting certain pertinent sections of the statute, the court said that it was satisfied it was the intention of the Legislature to vest very broad powers in the Benchers. The Benchers may prohibit any conduct that is contrary to the best interest of the public or the profession. Conduct need not be specifically prohibited before it may be the subject of disciplinary proceedings. Whether advertising, as done by Mr. Jabour, constitutes conduct amenable to disciplinary proceedings is a matter for the Benchers.

The respondents also contended—a view supported by the trial judge—that the powers of the Benchers, within the Act, had to be "specific" before they could legally be exercised. The appeal court differed. It acknowledged that there is no 'specific' authority in the Act conferring on the Benchers the power to prohibit advertising. Indeed there are few specific powers; most are general and broad. It does not matter whether they are specific. What matters is whether they are granted. The power to prohibit commercial advertising is granted as part of the broad regulatory powers conferred by the Act. Provided the conduct can be found to be contrary to the best interest of the public or of the legal profession, or that it tends to harm the standing of the profession, it is within the ambit of the Benchers' power. The appeal court concluded—contrary to the court of first instance—that the Benchers have the power to prohibit the type of advertising such as utilized by Jabour and to discipline with respect to that type of advertising. The court made it clear, however, that whether the Benchers ought to exercise the power was not for it to decide in the appeals before it.

The court then had to direct itself to the legalities arising from a consideration of the *Combines Investigation Act*. At this point it seems appropriate, for a proper understanding of the issue to be addressed, to quote the relevant portions of that statute:

32(1) Every one who conspires, combines, agrees or arranges with another person

- (a) to limit unduly the facilities for transporting, producing, manufacturing, supplying, storing or dealing in any product,
 - (b) to prevent, limit or lessen, unduly the manufacture or production of a product, or to enhance unreasonably the price thereof,
 - (c) to prevent, or lessen, unduly, competition in the production, manufacture, purchase, barter, sale, storage, rental, transportation or supply of a product, or in the price of insurance upon persons or property, or
 - (d) to otherwise restrain or injure competition unduly,
- s guilty of an indictable offence and is liable to imprisonment for five years or a fine of one million dollars, or both.

.

(6) In a prosecution under subsection (1), the court shall not convict the accused if it finds that the conspiracy, combination, agreement or arrangement relates only to a service and to standards of competence and integrity that are reasonably necessary for the protection of the public

- (a) in the practice of a trade or profession relating to such service; or
- (b) in the collection and dissemination of information relating to such service.

Subsection (6) was added when, in the 1975 amendments, the Act was extended to professional services. An interpretation section was included, the following portion being pertinent:

“product” includes an article and a service;

“service” means a service of any description whether industrial, trade, professional or otherwise;

“supply” means,

- (a) relation to an article, sell, rent, lease or otherwise dispose of an article or an interest therein or a right thereto, or offer so to dispose of an article or interest therein or a right thereto, and
- (b) in relation to a service, sell, rent or otherwise provide a service or offer so to provide a service;

“trade, industry or profession” includes any class, division or branch of a trade, industry or profession.

It is clear that an infraction of Section 32 constitutes a criminal activity in relationship to which there could be very severe penalties imposed. The Federal Department of Consumer Affairs has held the view that the amendments to the *Combines Investigation Act* gave it responsibility to oversee the work of law societies (and presumably dental, medical, nursing, optometrical, etc. provincial licensing authorities, as well) that have acted under provincial legislation since Confederation. It was the department's contention that Section 32(6) is determinative, that is, there is an implication of finality, and that it sets limits on the

powers of the Law Society and the Benchers. Indeed, the respondent in this action, the Attorney-General of Canada, Restrictive Trade Practices Commission, submitted that, with the 1975 amendments, the Parliament of Canada has declared that the conduct of persons discharging a responsibility vested in them by a Provincial Legislature might be criminal. The appeal court adopted the oft quoted opinion that it cannot be an offence for a body to perform an act which the provincial Legislature is empowered to authorize it to perform and has done so. Accordingly, it was concluded that the *combines legislation simply does not apply to regulatory schemes validly established by provincial legislation*. Such arrangements are not prohibited by the Act. The conduct of those who make the regulations is not made an offence and compliance with such rules does not constitute a crime. The matters, then, which were set out by the Director of Investigation and Research, *Combines Investigation Act*, is his application to the Restrictive Trade Practices Commission against the Law Society of British Columbia were adjudged to be not capable of constituting crimes and that the inquiry should be stopped.

A consideration of the issue, ‘freedom of speech’ remains. It was concluded by Jabour that the policies and rulings of the Benchers prohibited him from truthfully informing the public of his services, experience, fields of practice, and fees and that this was a violation of right to freedom of speech. It was said that freedom of speech has been recognized as one of our essential fundamental rights that can only be restricted by express legislative authority.

After quoting several pertinent judgments, Mr. Justice Seaton concluded as follows:

“The speech with which we are concerned is commercial advertising. The question is: has the Legislature validly bestowed on the Benchers the power to ban that type of speech. . . ? I think that it has.”

The Appeal Court of British Columbia unanimously allowed the Law Society's appeals.

The Supreme Court of Canada

On December 2 1980, Messrs. Justice Martland, Estey, and Chouinard granted Jabour and the Attorney General of Canada, Restrictive Trade Practices Commission leave to appeal to the Supreme Court of Canada. The appeals were heard on May 25-27 1981 and the judgments were pronounced on August 9 1982.

In view of the important constitutional issues involved, the case, with the concurrence of the court, attracted a lengthy list of intervenants. An ‘intervention’ is a proceeding in a suit or action by which a third person is permitted by the court to make himself a party, either joining the plaintiff or appellant in claiming what is sought or uniting with the defendant or respondent in resisting the claims of the plaintiff or appellant, or demanding something adversely to both of them. In addition to the

Continued on next page

Attorneys-General of Ontario, Quebec, New Brunswick, British Columbia, Saskatchewan, and Alberta, the Pre-paid Legal Services Program of Canada, The Law Society of Upper Canada, and the Federation of Law Societies of Canada participated as intervenants.

The entire court of nine justices heard the appeals and the judgment of the court, written by Mr. Justice Estey, was unanimous. Again the two actions were heard consecutively, as in the courts below, and again both actions were disposed of in a single judgment.

Following a complicated set of reasons for a decision on certain jurisdictional matters, not particularly germane to the purpose of this paper, the court addressed itself to three questions framed by its Chief Justice.

Question #1

Does the *Combines Investigation Act*, as amended, apply to the Law Society of British Columbia, its governing body or its members?

After a most comprehensive attention to the reasons for the judgment, the Court, through Mr. Justice Estey, concluded that as long as the *Combines Investigation Act*, or at least Part V of it, is styled as a criminal prohibition, proceedings in its implementation and enforcement will require a demonstration of some conduct contrary to the public interest. As the Law Society of British Columbia had made a rule with reference to the discipline of a member in a manner concerning a subject which is clearly within provincial competence, it was concluded that on a proper construction of Section 32 of the *Combines Investigation Act*, taken as an entity, the section does not apply to the Law Society in the circumstances of this appeal.

Question #2

If the *Combines Investigation Act* does apply, is it in that respect *intra vires* (within the authority of) the Parliament of Canada?

In view of the negative response to number one, it was not necessary that this question be answered. It was noted that the intervenant, the Attorney General of Ontario, took the view that "the Criminal law power cannot validly proscribe acts as criminal which the Legislature of a province has expressly authorized." There has been considerable support for that position by the courts but the Supreme Court of Canada in this action was not called upon to address it in view of its answer to the first question.

Question #3

Does the ruling of the Benchers of the Law Society of British Columbia, prohibiting the appellant (Jabour) from informing the public about the type and cost of legal services provided, violate the appellant's rights to freedom of speech in Canada?

The Court's answer was 'No'. It quoted an earlier judg-

ment to the effect that "'Free' in itself is vague and indeterminate. Free speech does not mean free speech; it means speech hedged in by the laws against defamation, blasphemy, sedition and so forth; it means 'freedom governed by law'." Another current member of the Supreme Court of Canada, Mr. Justice Beetz, was quoted from one of his 1978 decisions, "None of the freedoms referred to (and reference had been made to freedom of speech) is so enshrined in the Constitution as to be above the reach of competent legislation."

Mr. Justice Estey observed that "it can hardly be contended that the province by proper legislation could not regulate the ethical, moral, and financial aspects of a trade or profession within its boundaries. . . . Clearly the right of a licence-holding member of the law profession, practising in the province of British Columbia, is subject to some provincial regulations. One of the regulations might amount to a curtailment of the ability of the licence holder to advertise his or her services." The Court clearly indicated that the Benchers of the Law Society were authorized by the provincial statute to do what was done in the disciplinary action relating to the appellant Jabour.

The Supreme Court of Canada, by unanimous judgment (as did the Appeal Court of British Columbia), dismissed both appeals.

CONCLUSION

That the judgments of the Supreme Court of Canada, in the cases reported, have strong, precedential pertinence to the provincial dental licensing authorities of Canada and to the dentists regulated by them is scarcely arguable. It is clear that given competent legislation, such as may be found, for instance, in *The Health Disciplines Act of Ontario, Part II Dentistry*, the governing body (Council, Board, Governors, etc.) has very broad powers. It may prohibit any conduct that in its opinion is contrary to the best interests of the public or the profession. And this includes the power to prohibit commercial advertising by the members and to discipline such members who disregard the prohibition.

Whether all ten provincial statutes fall to the scrutiny of 'competent legislation' is a matter to which this paper does not address itself. That will be a subject for future attention.

REFERENCES

1. *Jabour v. Law Society of British Columbia et al. Law Society of British Columbia et al v. Attorney-General of Canada* (1979), 98 Dominion Law Reports (3d) 442.
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3. *The Attorney-General of Canada, The Restrictive Trade Practices Commission v. The Law Society of British Columbia et al. Donald Jabour v. The Law Society of British Columbia et al* (1982), Supreme Court of Canada. Reasons for judgment not yet published.

Canadian participation in Dental International Standards meeting

Derek Jones, BSc, PhD, FI Ceram.

The Canadian Advisory Committee to ISO/TC 106 Dentistry participated in the meeting of the International Standards Organization, Dental Technical Committee in Vienna, from October 18 to 22, 1982. About 100 delegates from 15 countries participated in meetings of the various committees. A total of six working groups and 29 task groups met, dealing with various areas of dental materials and devices.

The Canadian delegation was made up as follows: Dr. D.W. Jones (Chairman, CAC), Drs. Ralph Barolet, Pierre Desautels, L. Johnson, D.C. Smith, Mr. W. Latchem and Dr. Peter T. Williams.

The various committees met to discuss such topics as Bur Dimensions and Performance, Root Canal Instruments, Dental Hand Pieces, Rotary Instruments and the Dental Patient Chair.

Meetings were also held dealing with materials such as Pit and Fissure Sealants, Resin-Based Filling Materials, Cements, Mercury and Alloy for Amalgam, Amalgamators, Synthetic Resin Teeth, Porcelain Bonded to Metal Systems, Investment Materials, Resilient and Soft Lining Materials for Dentures, Gold Solders, Gypsum Products, Colour Stability and Tooth brushes.

The Canadian delegation to the ISO is making increasingly important contributions to the activities of this international organization. Canada holds the Secretariat of Working Group No. 1 which deals with the various filling materials. Drs. Smith and Jones are Chairman and Secretary respectively of WG1 and were involved in the organization and running of this important group with its numerous task groups. WG1/TG1 deals with zinc oxide eugenol type restorative and filling materials. The

document produced by this group has reached the Draft International Standard voting stage and was debated at the working group meeting. WG1/TG2 deals with endodontic materials and has just completed development of three draft proposals. WG1/TG3 deals with carboxylate cements. This task group has also developed a draft which is awaiting final voting. WG1/TG5 are in the final stages of completing a draft on pit and fissure sealants. WG1/TG6 have developed a draft on silicophosphate cements. This item was also briefly discussed at the working group meeting. WG1/TG7 deals with alloys for amalgam and mercury.

The final draft documents have been developed and were revised and modified at the task group and working group meetings. WG1/TG7 are also working together with WG6 on a draft for amalgamators. WG1/TG8 deals with glass ionomer cement. An in-depth discussion took place relative to this type of material and the draft document was modified at the working group meeting.

WG1/TG9 deals with resin-bonded filling materials. This group is in the final stages of developing a draft document for these materials. WG1/TG10 have the task of developing harmonization of the test methods for cements and have considerable work ahead of them in this task. Task Group 4 of WG1 set up to deal with standardization and harmonization of test procedures has been closed down. Task Groups 1, 3, and 6 have also been closed down and Task Group 8 is designated as being inactive since these groups have produced the necessary draft documents.

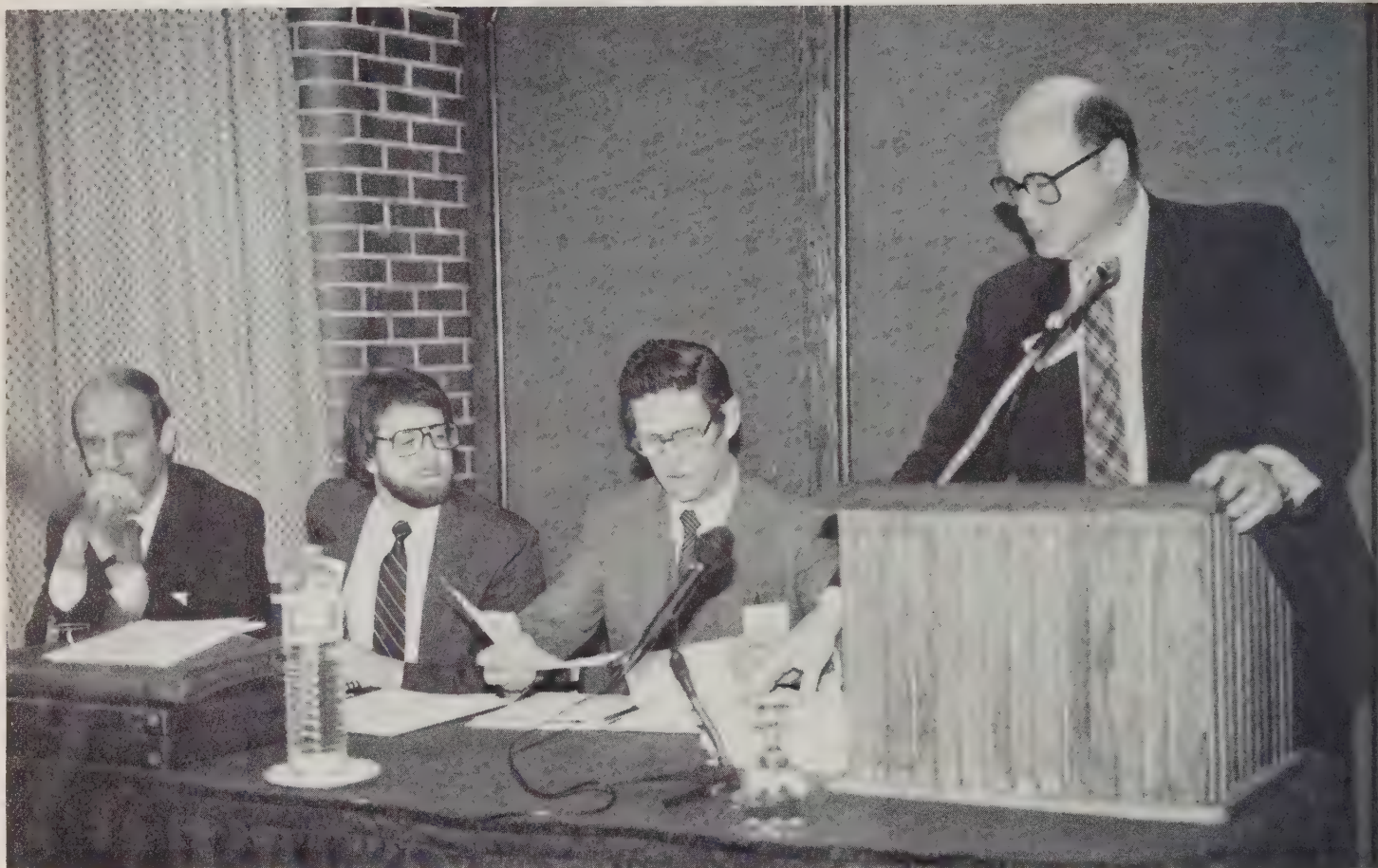
Dr. Smith took part in the task group activities of Pit and Fissure Sealants, Resin Bonded Filling Materials, Colour Stability and Denture Base Resins. Dr. Jones participated

in the task group meetings of Porcelain Bonded to Metal, Resilient Lining Materials for Dentures and Test Methods for Cements. Dr. Desautels, whose main responsibility is in the activities of Working Group 3 Terminology, also took part in task group meetings dealing with Alloy for Amalgam, Mercury, Amalgamators, Dispensers and Capsules, and the development of a numbering system for dental instruments.

Dr. Barolet who is the official Canadian delegate to Working Group 6 attended task group meetings dealing with the operating light (Luminair), the dental patient chair, the dental unit and in addition Dr. Barolet attended meetings dealing with root canal and hand instruments. Dr. Johnson is the official Canadian delegate to Working Group 2 dealing with prosthodontic materials and attended task group meetings dealing with synthetic resin teeth, gypsum products. In addition, Dr. Johnson is the Convenor of Task Group 10 of Working Group 2 which deals with resilient lining materials for dentures. Dr. Williams is the official Canadian delegate to Working Group 7 dealing with tooth brushes. In addition to attending this working group, Dr. Williams also participated in the activities of task groups dealing with corrosion, porcelain to metal, gold solders and investment materials. Mr. Latchem is the Canadian delegate to Working Group 4 dealing with dental instrumentation and attended task groups discussing bur dimensions, bur performance, neck strength, hand pieces and hand instruments.

***Dr. Jones** is Chairman, Canadian Advisory Committee ISO/TC 106; Chairman, CSA Technical Committee on Dentistry; Secretariat ISO/TC 106/WG1. He is Professor and Head of the Dental Biomaterials Science, Faculty of Dentistry, Dalhousie University, Halifax.

Quality Assurance and Peer Review Conference



The Canadian Dental Association organized a Quality Assurance and Peer Review Conference in Ottawa on November 18. Dr. William R. Thompson, President of the CDA, opened the conference and some of the key speakers of the day included: Dr. Howard L. Bailit, a professor at Columbia University (left); John S. Klyop, Director of the Office of Quality Assurance, American Dental Association (second from left), and Delmar J. Stauffer, ADA's Assistant Executive Director (right).

1983 — Significant year in Manitoba

In the summer of 1883, the Legislative Assembly of the Province of Manitoba passed an act setting up a licensing body for the practice of dentistry in that province.

In the spring of 1983, that licensing body, the Manitoba Dental Association, will hold a one-day celebration to mark 100 years of organized dentistry in Manitoba.

The birthday party, planned for Saturday, May 14, will feature table clinics depicting the development of dental products and techniques through those 100 years.

A luncheon has been planned at which MDA members and guests will share some of the history of the profession in the province and some, who have rendered outstanding service in the field of dentistry, will be honored.

A gala social event in the evening will involve dentists and everyone involved in dentistry, including technicians, auxiliaries and supply representatives.

An added aspect of the celebration will be a publication providing the highlights of the MDA and dentistry in Manitoba during the past 100

years. Dr. Ralph Crawford and Dr. Bill Christie are engaged in the writing of this book.

All of the special events will be staged in Winnipeg's Convention Centre.

Faculty anniversary

The Faculty of Dentistry of the University of Manitoba will also be marking an anniversary in the late spring of this year.

The Faculty was established 25 years ago.

Osseointegration in clinical dentistry

The successful replacement of lost natural teeth by implanted prostheses would significantly advance dental treatment. Thousands of middle-aged and elderly edentulous patients suffer from advanced residual ridge reduction. These individuals have to contend with an inability to cope with conventional complete dentures, often confronting the profession with a predicament which cannot be solved. Over the years several inventive and well meaning dentists attempt to circumvent such prosthodontic problems by prescribing dental implants. Regrettably the optimal combination of materials, designs, and implant techniques have not yet been developed and standardized. As a result many patients have suffered unnecessarily from the well intended application of human experimentation without genuinely informed consent.

Recent research in the biological response to different medical prostheses, underscores the viability of a direct biological attachment for dental implants. The term osseointegration was coined by Brånemark almost twenty years ago to describe the result of a large body of basic science, surgical, biomaterials and prosthodontic

research in the area of dental implants. The applied form of this research provides evidence of a breakthrough in this field.

A conference on Osseointegration in Clinical Dentistry therefore became a priority, and such a Conference was held in Toronto earlier this year. It was co-sponsored by the University of Göteborg and the University of Toronto, with invitations sent to senior university prosthodontists and oral surgeons from all over North America. The objective of the Conference was to subject the Swedish basic and clinical research to a collective scrutiny prior to the establishment of osseointegration training centres in academic institutions in North America.

The scientific evidence presented at the Conference provided North American educators in Prosthodontics and Oral Surgery with criteria for dental implant success which exceed by far the minimal requirements proposed at a recent NIH sponsored consensus conference.

— Dr. G.A. Zarb,
Professor of Prosthodontics
University of Toronto.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association's Retirement Savings Plan stood as follows on November 30, 1982.

<i>Common Stock Fund</i>	\$58.8945
<i>Fixed Income Fund</i>	\$32.9895
<i>Guaranteed Fund</i>	\$24.9568
<i>Balanced Fund</i>	\$12.3247

Total assets (market value) of the plan were \$32.778,000.

The previous month's figures, as of October 31, 1982, stood as follows:

<i>Common Stock Fund</i>	\$56.8409
<i>Fixed Income Fund</i>	\$32.3368

<i>Guaranteed Fund</i>	\$24.7296
<i>Balanced Fund</i>	\$11.9888

Total assets (market value) of the plan were \$32,180,971.

For further information write to: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3 or call the central information services of CDSPI at 1-800-268-5418 (toll free number for Western Canada, Atlantic Canada and Ontario for Code 807 only), 1-800-268-3411 (toll free number for Quebec and Ontario except Code 807), and 497-7117 (Metro Toronto area).

222* Tablets

INDICATIONS

For relief of mild to moderate pain, fever and inflammation as in influenza, common cold, low back and neck pain, headache, trauma, following dental and surgical procedures.

DOSAGE

Adults—1 or 2 tablets one to three times daily; Children's dosage, when recommended by a physician: 10 to 14 years, one tablet, one to three times daily; 5 to 10 years, one-half tablet, one to three times daily.

CONTRAINDICATIONS

Gastrointestinal ulceration and sensitivity to any of the components.

WARNINGS

Salicylates increase the effects of anticoagulants. Caution is necessary when salicylates and anticoagulants are prescribed concurrently. Also, salicylates may depress the concentration of prothrombin in the plasma. Large doses of salicylates may affect insulin requirements of diabetics. Salicylates may potentiate sulfonylurea hypoglycemic agents. Analgesic abuse (excessive and prolonged therapy) has been associated with nephropathy. TO AVOID ACCIDENTAL POISONING ACETYSALICYLIC ACID PREPARATIONS MUST BE KEPT WELL OUT OF REACH OF CHILDREN.

PRECAUTIONS

Give with caution to patients with asthma, other allergic conditions, bleeding tendencies, or hypoprothrombinemia. Salicylates can produce changes in thyroid function tests.

Observe care in use of codeine, although tolerance and addiction are rare. Give codeine with caution to patients with severe respiratory depression. Its depressant effect may be enhanced by concurrent administration of sedatives and tranquilizers.

ADVERSE REACTIONS

Acetylsalicylic acid: Gastrointestinal: dyspepsia, heartburn, nausea, vomiting, diarrhea, gastrointestinal ulceration and bleeding. Ear reactions: tinnitus, hearing loss. Hematologic: anemia, leukopenia, thrombocytopenia, purpura. Dermatologic and Hypersensitivity: urticaria, angioedema, pruritus, various skin eruptions, asthma and anaphylaxis. Miscellaneous: mental confusion, drowsiness, sweating and thirst.

Codeine: Average or large doses may cause various gastrointestinal symptoms such as nausea, vomiting and constipation.

Caffeine: May cause nausea, nervousness, insomnia, headache, vomiting, palpitation, vertigo, muscle tremor, sensory disturbances, excessive diuresis in sensitive patients. Large doses may cause gastric ulceration.

FULL PRESCRIBING INFORMATION AVAILABLE ON REQUEST

HOW SUPPLIED

222* Tablets—White, scored, engraved 222 on one side. Each tablet contains: acetylsalicylic acid 375 mg, caffeine citrate 30 mg, codeine phosphate 8 mg. Available in tubes of 12; bottles of 40, 100 and 250; plus bottles of 60 with safety cap.

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Oral health study by U of Manitoba first of its kind

The University of Manitoba's Faculty of Dentistry and School of Dental Hygiene have combined forces to investigate the oral health of healthy elderly people living in the Winnipeg, Manitoba area.

The project is the first of its kind in Canada and has, as its overall objective, the improvement of the oral health of this group of individuals, who will be referred for treatment when necessary. The dental faculty hopes the project will provide an opportunity for senior citizens to im-

prove their level of oral health and enhance their knowledge of preventive dentistry, particularly in areas of nutrition and personal oral hygiene.

The project is "long overdue," said Dr. A. Schwartz, Dean of the Faculty of Dentistry. He confirmed that a pilot program initiated in the early part of 1981 demonstrated "the need for this type of activity" in Canada.

The federal government's health promotion directorate contributed a \$70,300 grant for the project, which is receiving support in the form of lec-

turers and supplies from the Manitoba Dental Health Services and City of Winnipeg Dental Services branches.

Official approval from the government was granted on November 1 and direction is coming from an eight-person advisory board with representatives from the University of Manitoba, Age and Opportunity Incorporated, Manitoba Dental Association, Manitoba Dental Hygienists' Association, and federal, provincial and city dental health services branches.

Obituaries/Nécrologies

CHOLETTE, René: Décédé le 21 juin 1982. Dr Cholette pratiquait la médecine dentaire à Montréal, Québec.

GOWLAND, J.H.: Dr. Gowland of Kingston, Ontario graduated from the University of Toronto in 1934. Born in 1909, he was a life member of the CDA.

HAMILTON, William Scott: October 31, 1982. Dr. Hamilton, the first Dean of the dental faculty at University of Alberta from 1944-58, died at 89 years. Born in Barrie, Ontario in 1893, he served with the Canadian Field Artillery in World War I and then entered the dental school at the University of Alberta. He graduated from the University of Toronto in 1923. Returning to Edmonton, Dr. Hamilton joined the staff of the School of Dentistry in 1925 and was appointed Director in 1942. He was awarded an honorary LLD degree by the university in 1977. Upon leaving the Uni-

versity of Alberta, he continued to practise as an oral surgeon in Edmonton until his retirement in 1976. Dr. Hamilton was past-president of the Edmonton & District Dental Society, a Fellow of the Royal College of Dentists of Canada, American College of Dentists, Royal College of Surgeons of England and International College of Dentists, member of the American Society of Oral Surgeons, and honorary member of the Canadian Dental Association and Canadian Society of Oral Surgeons.

JENKINS, E.N.F.: September 13, 1982. Dr. Jenkins studied at the Royal Dental Hospital, London, England and received his LDS and RCS in 1927. He practised there until 1940 when he joined the Army Dental Corps. In 1947 he came to Canada where he practised in Assiniboia and Regina, Saskatchewan until his retirement in 1978. A CDA life member, he was a

former council member for the College of Dental Surgeons of Saskatchewan.

LAVERDURE, Gilbert: August 16, 1982. Dr. Laverdure of Vanier, Ontario was born in 1930 and graduated from the University of Montreal in 1961.

MALO, J.E.: November 5, 1982. Dr. Malo, of Kingston, Ontario, graduated from the University of Toronto in 1946.

MARNELL, Victor V: May 24, 1982. Born in 1910, Dr. Marnell graduated from the University of Toronto in 1946 and practised dentistry in Victoria, B.C.

QUACKENBUSH, H.: Born in 1895 and a resident of Thunder Bay, Ontario, Dr. Quackenbush graduated from the Royal College of Dentists of Ontario in 1922.

WRIGHT, W.D.M.: October 13, 1982. Dr. Wright of Cobourg, Ontario graduated from the University of Toronto's faculty of dentistry in 1944.

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**HOECHST, A PIONEER
IN THE FIELD OF
DENTAL ANESTHESIA
INTRODUCES**

Ultracaine®



**A NEW COMPOUND FOR
LOCAL ANESTHESIA**

The latest local anesthetic from Hoechst,
the company that introduced procaine,
the first synthetic local anesthetic.

New Ultracaine® ^{D-S} ^{D-S} forte (articaine HCl)

A NEW COMPOUND FOR LOCAL ANESTHESIA

1 ^{New} Rapid onset of action

Onset of anesthesia with Ultracaine takes from one to three minutes.

2 ^{New} High potency and low toxicity

Complete anesthesia in extractions with one injection in most cases,^{1,2} and a low 0.6% incidence of side effects.³

3 ^{New} Optimal depth and duration of anesthesia

Maximal depth of anesthesia within about five minutes, with a duration of at least 45 minutes with Ultracaine D-S and 75 minutes with Ultracaine D-S forte.

4 ^{New} Proven efficacy in clinical experience

High success rates of 93% with Ultracaine D-S, and 95% in Ultracaine D-S forte as shown in the results of a multicentre trial in 9520 patients.³

5 ^{New} Excellent tolerability

Low effective dosage along with low toxicity combine to produce a 99.4% freedom from side effects.³

Briefly —

The Nova Scotia legislature has appointed a select committee to investigate the adequacy and delivery of health care in that province. The committee, said Don Pamenter, executive director of the Nova Scotia Dental Association, has been holding hearings since last September, and the association will be "getting involved" in the near future.

Mr. Pamenter said that, although dentistry forms a major part of the health care system in the province, the committee has yet to officially contact the Association.

Dental research projects proposed by Drs. Jean-Marc Brodeur, Paul Simard and André-Pierre Contandopoulos of the Université de Montréal, and Dr. Margery Forgay of the University of Manitoba, have been awarded federal funding.

Drs. Brodeur, Simard and Contandopoulos received an award of \$96,270 to study the effectiveness of a weekly fluoride mouthwash in reducing cavities in children 10 to 12 years of age. The study will include an assessment of this mouthwash treatment in association with fluoridated water.

Dr. Forgay has been awarded \$6,808 for the formulation of a research protocol to assess the demand and skill requirements for degree graduates in dental hygiene.

Fifteen awards for research projects in the health disciplines, totalling \$888,349, were announced by Health and Welfare Canada Minister Monique Bégin, on Nov. 17. The funds are available through the National Health Research and Development Program.

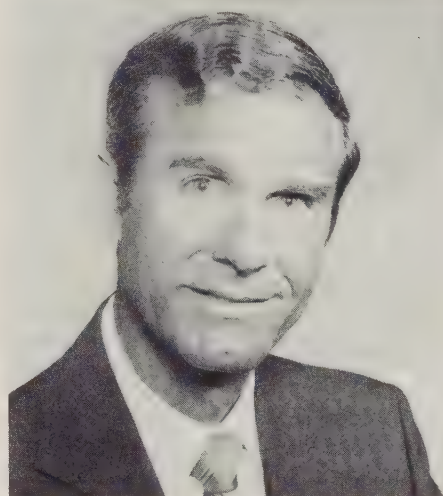
In recognition of the late Dr. James P. McGuigan's interests in and contributions to dentistry, the Nova Scotia Dental Association recently established the Dr. J.P. McGuigan Scholarship Fund.

The scholarship will be presented annually to a student from the Atlantic provinces entering first year at

Dalhousie. Although the terms for the scholarship have not been determined, the NSDA hopes to raise a principal sum of at least \$10,000, from which the income would be presented annually in scholarship form.

Dr. McGuigan, who died on September 8, 1982, graduated from Dalhousie University in 1939 and practised general dentistry in Halifax, Nova Scotia. Prominent in his profession, he was a part-time member of Dalhousie's dental faculty for 20 years, past-president of the Nova Scotia Dental Association and Nova Scotia Provincial Dental Board, and past chairman of the ethics committee of the Canadian Dental Association.

He was instrumental in promoting construction of the new Dalhousie dental school and was a Fellow of the International College of Dentists.



Dr. Michael Rennert

Dr. Michael Rennert, of Montréal, Québec, was elected President of the Northeastern Society of Orthodontists at the 61st annual meeting, held in Montréal November 13-17, 1982.

Dr. Rennert received his orthodontics degree in 1965 from the State University of New York after graduating in dentistry from McGill University in 1963.

Over 1,100 orthodontists from Quebec, New Brunswick, Prince Edward Island, Nova Scotia and Newfoundland, as well as the the eastern

Continued on next page

Ultracaine® D-S D-S forte (carticaine HCl)

Action

Ultracaine (carticaine HCl) has been shown to block conduction by interfering with the process fundamental to the generation of the nerve action potential, namely the large transient increase in the permeability of the membrane to sodium ions that is produced by a slight depolarization of the membrane.

Indications

Ultracaine is indicated for infiltration anesthesia and nerve block anesthesia in clinical dentistry.

Contraindications

Ultracaine is contraindicated in patients with a known hypersensitivity to local anesthetics of the amide group; in the presence of sepsis near the proposed injection site; in patients with severe shock; in patients with any degree of heart block; in patients with existing neurologic disease and in patients with severe hypertension.

When **Ultracaine** with epinephrine is used, the caution required of any vasopressor drug is in order.

Warnings

Methemoglobinemia

As with other local anesthetics, **Ultracaine** is capable of producing methemoglobinemia: this has been observed when an intravenous regional anesthesia technique was used. **Ultracaine**, when used as directed in dental procedures, was not associated with methemoglobinemia.

Usage in Pregnancy

Animal studies have not demonstrated teratogenic or embryotoxic effects of **Ultracaine**. However, safe use in pregnant women has not been established. **Ultracaine** is unlikely to be transferred to the mother's milk since it is rapidly decomposed and eliminated.

Precautions

Resuscitative equipment and drugs should be readily available when any local anesthetic is used. The

safety and effectiveness of local anesthetics depend upon proper dosage, correct technique, adequate precautions and readiness for emergencies. **Ultracaine** should be used cautiously in persons with known drug allergies or sensitivities, or suspected sensitivity to the amide-type local anesthetics.

Adverse Reactions

Reactions to **Ultracaine** are characteristic of those associated with amide-type local anesthetics.

A major cause of adverse reactions to this group of drugs is excessive plasma levels, which may be due to overdosage, inadvertent intravascular injection, or slow metabolic degradation. Other causes of reactions to these local anesthetics may be hypersensitivity, idiosyncrasy, or diminished tolerance.

Dosage and Administration

As with all local anesthetics, the dosage varies and depends upon the area to be anesthetized, the vascularity of the tissues, the number of neuronal segments to be blocked, individual tolerance and the technique of anesthesia. The lowest dosage, needed to provide effective anesthesia should be administered.

	Infiltration	Nerve Block	Oral Surgery
Ultracaine DS forte	0.5-2.5 mL	0.5-3.6 mL	1.0-5.4 mL
Ultracaine DS	0.5-2.5 mL	0.5-3.6 mL	1.0-5.4 mL

It is recommended not to exceed 7 mg/kg body weight in adults.

To date, **Ultracaine** has not been administered to children under 4 years of age, nor in doses greater than 5 mg/kg in children between the ages of 4 and 12.

Supply

Ultracaine D-S: 4% with epinephrine (1/200,000) and Ultracaine D-S forte: 4% with epinephrine (1/100,000) are available in 1.8 mL cartridges, box of 50 cartridges.

Product Monograph available on request.

References:

1. Kirsch, A., Dental Clinic, University of Feiburg, i. Br., Zahnärztl. Welt, to be published.
2. Schulze-Husmann, M.: Experimental Evaluation of the New Local Anesthetic Ultracaine in Dental Practice, Dissertation, Bonn, 1974.
3. Results of a Multicentre Trial in Lower Premolars, Data on File, Hoechst AG.

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United States, are active members of the Northeastern Society of Orthodontists.



The Canadian Fund for Dental Education is accepting applications for fellowships for teacher/research training and for teachers presently teaching in dental faculties.

Applicants must be Canadian citizens or landed immigrants, have completed an undergraduate course in dentistry, dental hygiene or science programs, be eligible for admission to a graduate school, and be interested in becoming a teacher or researcher in a Canadian dental faculty or dental auxiliary training program.

CFDE's fellowship for university dental teachers, sponsored by Warner-Lambert Canada Inc., is valued at \$2,000.

Candidates must be full-time members of the teaching staff of one of the 10 Canadian faculties of dentistry and have at least five years of university teaching experience. The purpose of the award is to provide an opportunity for an established teacher to refresh and extend knowledge in any field of dental education and research.

The deadline for filing applications for both fellowships is March 1, 1983. Particulars can be obtained from the dean's office in each dental school or the CFDE office at 44 Eglinton Avenue West, Suite 205, Toronto, Ontario, M4R 1A1.



The Ontario Public Health Association recently passed a resolution calling for the maintenance of fluoride at the recognized optimum level of effectiveness in community water supplies.

The resolution, along with a second recommendation which called for a change in the wording of fluoridation ballots, is being forwarded to the appropriate provincial ministers for action.

Mr. Gerald Nason, executive director of the OPHA, said the wording on the ballots should be changed to "allow electors to vote 'yes' if they favor continuation of fluoride and 'no' if they oppose it." The present ballots only "confuse" the voters, he said.

The Association, which approved the two resolutions at its Oct. 26 meeting, is the second health organization in Ontario to promote fluoridation.

In June, 1982, the Association of Ontario Boards of Health called for province-wide endorsement of water fluoridation.



Table clinicians can win professional recognition while earning a continuing dental education credit if they participate in the 1983 table clinics program organized by the Academy of General Dentistry.

The program, called *AGD-Toronto: A New Leaf on Learning*, will be held in Toronto July 16-20 at The Sheraton Centre during AGD's 31st annual meeting.

AGD's judges will award points to table clinicians in three competition categories: subject matter, presentation, and table display. The Vernon S. Johnson Award will be presented to the clinician with the most outstanding display. Judges will also present plaques to the second and third-place participants, plus a special student award.

Dentists, dental students and study clubs must apply by March 30 for the program. Table clinics must meet specific guidelines. For information, contact the Department of Meeting Planning, AGD, Suite 1200, 211 E. Chicago Avenue, Chicago, Illinois 60611.



The CDA Journal's subscription department wishes to clarify the procedure followed when a person orders a one-year subscription. Orders are honored on the basis of 12 issues from the time the order is received, and not on a calendar year basis. In other words, if a subscription order is re-

ceived in March, that person will not receive back issues from January, but rather, will receive 12 issues beginning with the March issue and continuing through February of the following year.



Two Ontario communities will retain fluoridation and three will have fluoridation for the first time, thanks to successful plebiscites held during the municipal elections on November 8, 1982.

For the second time within 17 months, Waterloo city voters defeated opposition attempts to remove fluoride from the community water supply, this time by a substantial majority of over 2,500 votes. The plebiscite showed 9,709 favored fluoridation while 6,971 voted to discontinue it.

In June, 1981, a 313-vote margin was instrumental in maintaining the city's 14-year-old practice of adding fluoride to the water supply.

Anti-fluoridationists in Blind River tried unsuccessfully to have fluoridation removed.

A majority of voters in Cochrane and Wasago Beach voted in favour of instituting fluoridation for the first time.

Citizens of Chalk River voted by a substantial majority to include fluoridation facilities in the community water supply introduced through their 1.5 million water treatment plant to be constructed this year.



An unusually high level of research activity at the University of British Columbia's Faculty of Dentistry has recently been acknowledged internationally.

UBC placed 20th out of a total of 998 participating institutions at the 1982 meeting of the International Association for Dental Research.

An assessment was made of research contributions from various institutions in the world at the New Orleans meeting. In 1981-82, the equivalent of \$750,000 was allocated to researchers at UBC, the highest per capita faculty dollar allocation in Canada.

Motrin[®]

(ibuprofen) tablets

Product Information

Action: Ibuprofen has demonstrated anti-inflammatory, analgesic and antipyretic activity in animal studies designed to specifically demonstrate these effects. Ibuprofen has no demonstrable glucocorticoid effect.

Following a single 200 mg dose of ibuprofen in humans, useful blood levels were demonstrable in 45 minutes and still present in six hours but at barely detectable levels. Peak levels occurred at approximately one hour after ingestion. Levels were lower when taken in conjunction with food.

Ibuprofen is rapidly metabolized and eliminated in the urine. The excretion of ibuprofen is virtually complete 24 hours after the last dose. The serum half-life of ibuprofen is 1.8 to 2 hours. There is no evidence of drug accumulation or enzyme induction.

Ibuprofen has been found to be less likely to cause gastro-intestinal bleeding in doses usually used than is acetylsalicylic acid.

Clinical trials in man have shown activity of a dose of 1200–1800 mg of ibuprofen daily to be similar to that of 3.6 grams of acetylsalicylic acid daily.

Indications and Clinical Uses: Motrin (ibuprofen) is indicated for the treatment of rheumatoid arthritis and osteoarthritis. Motrin is also indicated for the relief of mild to moderate pain accompanied by inflammation in conditions such as musculo-skeletal trauma and post-dental extraction. Motrin is also indicated for the relief of pain associated with dysmenorrhea.

Contraindications: Motrin (ibuprofen) should not be used in patients who have previously exhibited hypersensitivity to it, or in individuals with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to acetylsalicylic acid or other nonsteroidal anti-inflammatory agents. (see WARNINGS)

Motrin should not be used during pregnancy, in nursing mothers or in pediatric patients because its safety under these conditions has not been established.

Warnings: Anaphylactoid reactions have occurred in patients with known A.S.A. hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported in patients receiving Motrin (ibuprofen). Peptic ulceration, perforation, or severe gastrointestinal bleeding can have a fatal outcome, and although few such reports have been received with Motrin, a cause and effect relationship has not been established. Motrin should be given under close supervision to patients with a history of upper gastro-intestinal tract disease.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in colour vision have been reported. If a patient develops such complaints while receiving Motrin (ibuprofen), the drug should be discontinued and the patient should have an ophthalmologic examination. Fluid retention and edema have been reported in association with Motrin; therefore, the drug should be used with caution in patients with a history of cardiac decompensation or renal disease.

Motrin, like other nonsteroidal anti-inflammatory agents, can inhibit platelet aggregation but the effect is quantitatively less and of shorter duration than that seen with acetylsalicylic acid. Motrin has been shown to prolong bleeding time (but within the normal range) in normal subjects. Because this prolonged bleeding effect may be exaggerated in patients with underlying hemostatic defects, Motrin should be used with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients on Motrin should be cautioned to report to their physicians signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

When Motrin is added to the treatment program of patients who have been on prolonged corticosteroid therapy, and it is decided to discontinue this therapy, the corticosteroid should be tapered slowly to avoid exacerbation of disease or adrenal insufficiency.

Aseptic meningitis has been reported in connection with Motrin therapy in patients with systemic lupus erythematosus. Such patients may also develop hypersensitivity reactions to Motrin such as fever, rash or abnormal liver function more often than those with other disorders. Caution should therefore be exercised when considering Motrin therapy for patients with systemic lupus erythematosus.

Drug Interactions

Coumarin-type anticoagulants: Several short-term controlled studies failed to show that Motrin significantly affected prothrombin times or a variety of other clotting factors when administered to individuals on coumarin-type anticoagulants. However, because bleeding has been reported when Motrin and other nonsteroidal anti-inflammatory agents have been administered to patients on coumarin-type anticoagulants, the physician should be cautious when administering Motrin to patients on anticoagulants.

A.S.A.: Animal studies show that A.S.A. given with nonsteroidal anti-inflammatory agents including Motrin yields a net decrease in anti-inflammatory activity with lowered blood levels of the non-A.S.A. drug. Single dose bioavailability studies in normal volunteers have failed to show an effect of A.S.A. on Motrin blood levels. Correlative clinical studies have not been done.

Adverse Reactions: The following adverse reactions have been noted in patients treated with Motrin (ibuprofen):

Note: Reactions listed below under Causal Relationship Unknown are those which occurred under circumstances where a causal relationship could not be established. However, in these rarely reported events, the possibility of a relationship to Motrin cannot be excluded.

Gastrointestinal: The adverse reactions most frequently seen with Motrin therapy involve the gastrointestinal system.

Incidence 3 to 9%: nausea, epigastric pain, heartburn.

Incidence 1 to 3%: diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the gastrointestinal tract (bloating or flatulence).

Incidence less than 1%: gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, hepatitis, jaundice, abnormal liver function (SGOT, serum bilirubin and alkaline phosphatase).

Central Nervous System:

Incidence 3 to 9%: dizziness.

Incidence 1 to 3%: headache, nervousness.

Incidence less than 1%: depression, insomnia.

Causal relationship unknown: paresthesias, hallucinations, dream abnormalities.

Dermatologic:

Incidence 3 to 9%: rash (including maculopapular type).

Incidence 1 to 3%: pruritus.

Incidence less than 1%: vesiculobullous eruptions, urticaria, erythema multiforme.

Causal relationship unknown: alopecia, Stevens-Johnson syndrome.

Special Senses:

Incidence 1 to 3%: tinnitus.

Incidence less than 1%: amblyopia (blurred and/or diminished vision scotomata and/or changes in colour vision). Any patient with eye complaints during Motrin therapy should have an ophthalmological examination (see PRECAUTIONS).

Causal relationship unknown: conjunctivitis, diplopia, optic neuritis.

Metabolic:

Incidence 1 to 3%: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Hematologic:

Incidence less than 1%: leukopenia and decreases in hemoglobin and hematocrit.

Causal relationship unknown: hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes (e.g. purpura, epistaxis, hematuria, menorrhagia).

Cardiovascular:

Incidence less than 1%: congestive heart failure in patients with marginal cardiac function, elevated blood pressure.

Causal relationship unknown: arrhythmias (sinus tachycardia, sinus bradycardia, palpitations).

Allergic:

Incidence less than 1%: anaphylaxis (see CONTRAINDICATIONS).

Causal relationship unknown: fever, serum sickness, lupus erythematosus syndrome.

Endocrine:

Causal relationship unknown: gynecomastia, hypoglycemic reaction.

Renal:

Causal relationship unknown: decreased creatinine clearance, polyuria, azotemia.

Symptoms and Treatment of Overdosage: A nineteen month old child weighing 12 kg ingested from 2800 to 4000 mg of Motrin (ibuprofen) and presented with apnea, cyanosis and responded only to painful stimuli. Oxygen and parenteral fluids were given and at 12 hours she appeared completely recovered. Two other children (10 kg each) ingested 1200 mg of Motrin each and there were no signs of acute intoxication or late sequelae. A 19 year old male who had ingested 8000 mg of Motrin reported dizziness, and nystagmus was noted. He recovered with no reported sequelae after parenteral hydration and three days' bed rest.

In cases of acute overdosage, the stomach should be emptied by vomiting or lavage, though little drug will likely be recovered if more than an hour has elapsed since ingestion. Because the drug is acidic and is excreted in the urine, it is theoretically beneficial to administer alkali and induce diuresis.

Dosage and Administration: *Rheumatoid arthritis and osteoarthritis.* The initial daily dosage in adults is 1200 mg divided into 3 or 4 equal doses. Depending on the therapeutic response, the dose may be adjusted downward or upward. The daily dosage should not exceed 2400 mg.

Maintenance therapy, once maximum response is obtained, will range from 800 to 1200 mg per day.

Mild to moderate pain accompanied by inflammation, dysmenorrhea: 400 mg repeated as required every 4 to 6 hours. The daily dosage should not exceed 2400 mg.

Children: Due to the lack of clinical experience, ibuprofen is not indicated for use in children under 12 years of age.

Supplied: 200 mg (yellow), 300 mg (white), 400 mg (orange) sugar-coated tablets and 600 mg (peach) film-coated tablets in bottles of 100 and 1000.

Product monograph available on request. CE 1542 UC

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FLUORINSE[®]

(Sodium fluoride oral solution)

COMPOSITION: Contains sodium fluoride in a pleasantly flavoured solution at neutral pH.

INDICATIONS: Dental caries prophylactic.

PRECAUTIONS: For buccal administration only.

DO NOT SWALLOW

Swallowing of solution may cause nausea. Usage in excess of recommended dosage may cause dental fluorosis.

DIRECTIONS: Swish vigorously in the mouth for approximately 1 to 2 minutes (preferably at bedtime after brushing and flossing teeth thoroughly) 1 to 2 teaspoonfuls (5 to 10 ml) of FLUORINSE.

Expectorate, DO NOT SWALLOW. For maximum benefit, do not eat or drink for a period of 30 minutes after rinsing.

Weekly Rinse	Daily Rinse	Weekly Rinse
Cinnamon (red)	Ice Mint (blue)	Mint (green)
0.2% sodium fluoride	0.05% sodium fluoride	0.2% sodium fluoride

HOW SUPPLIED: Fluorinse is available in 480 ml plastic bottles with child-resistant closures.

CAUTION: Keep out of reach of children.

FLOZENGES[®]

(Sodium fluoride tablets)

COMPOSITION: Contains sodium fluoride in lozenge form. Contains no sugar, saccharin or cyclamate.

INDICATIONS: Dental caries prophylactic for buccal and systemic administration.

PRECAUTIONS: If this product is used in an area where the drinking water has a natural fluorine content in excess of 0.7 parts of fluoride ion per million parts of water, or is artificially fluoridated, fluorosis of the tooth enamel may result.

RECOMMENDED DOSAGES SCHEDULE:

Age	Concentration of fluorine in drinking water (p.p.m.)		
	<0.3	0.3-0.7	>0.7
2 weeks to 2 years	0.25 mg daily (½ orange tablet)	0 mg daily	0 mg daily
2 to 3 years	0.5 mg daily (1 orange tablet)	0.25 mg daily (½ orange tablet)	0 mg daily
3 to 16 years	1.00 mg daily (1 strawberry tablet)	0.5 mg daily (½ strawberry tablet)	0 mg daily

After brushing the teeth allow the tablet to dissolve slowly in the mouth and swallow the resultant liquid. Initially, for infants, the tablet can be dissolved in juice or crushed in food. However, once teeth have erupted the infant should be encouraged first to chew and eventually, when older, to suck the tablets as described above.

HOW SUPPLIED: Flozenges are available in plastic containers with child-resistant closures of 120 lozenges.

Two Flavours:

Orange	Strawberry
0.5 mg of fluoride ion	1.0 mg of fluoride ion

CAUTION: Keep out of reach of children. Exceeding recommended dosage over a prolonged period of time may be harmful.

Available in pharmacies only.
Full information on request.

Cooper

Cooper Laboratories Limited
Boisbriand, Que.

CDA Resource Centre/Le Centre de documentation

DENTAL OCCLUSION

Copies of the following articles are available at no charge from the library. This bibliography was generated with the help of MEDLARS, a computerized information retrieval system for the Health Sciences field, which has been operational at the library since February 1982, and is at the disposal of all members.

OCCLUSION DENTAIRE

On peut se procurer sans frais à la bibliothèque le texte des articles ci-dessous. Cette bibliographie a été dressée grâce à MEDLARS, un système automatisé de recherche documentaire sur les sciences de la santé que la bibliothèque exploite depuis le mois de février 1982, et qu'elle met au service de tous les membres.

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Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 30 novembre 1982.

<i>Fonds d'actions ordinaires</i>	\$58.8945
<i>Fonds à revenu fixe</i>	\$32.9895
<i>Fonds garanti</i>	\$24.9568
<i>Fonds de placement</i>	\$12.3247

L'avoir total (valeur marchande) du régime s'élevait à \$32.778,000.

Au 31 octobre 1982, les chiffres du mois précédent étaient les suivants:

<i>Fonds d'actions ordinaires</i>	\$56.8409
<i>Fonds à revenu fixe</i>	\$32.3368

<i>Fonds garanti</i>	\$24.7296
<i>équilibré</i>	\$11.9888

L'avoir total (valeur marchande) du régime s'élevait à \$32,180,971.

Pour de plus amples renseignements, veuillez écrire à l'adresse suivante: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3, ou appeler le service de renseignements du CDSPI en composant 1-800-268-5418 (appel sans frais pour l'Ouest canadien, les Maritimes et l'Ontario où le code est 807 seulement), 1-800-268-3411. (appel sans frais pour le Québec et l'Ontario sauf où le code est 807), et 497 7117 (Région métropolitaine de Toronto).

Les dernières révisions fiscales — explications et conséquences

Sidney W. Goldstein*

A cause des changements apportés à la loi et à la politique du gouvernement au cours de la dernière année, le dentiste canadien avisé fera bien de réviser sa situation financière.

Depuis le 12 novembre 1981, deux budgets ont été déposés, de nombreux communiqués ont été émis et un rapport économique a été publié. Plusieurs propositions contenues dans le budget du 12 novembre 1981 auraient pu avoir des conséquences adverses pour les dentistes canadiens, mais des avis subséquents les ont ou retirées ou considérablement modifiées.

LE DENTISTE ET LES RÉGIMES D'ASSURANCE DENTAIRE

Le budget du 12 novembre 1981 proposait de taxer les bénéfices consentis par les employeurs en vue d'offrir à leurs employés un régime d'assurance dentaire. En partie à cause des soumissions présentées au Ministère des Finances pour montrer les conséquences adverses que ce nouvel impôt aurait sur la santé dentaire et sur les revenus des dentistes au Canada, la proposition a été retirée le 27 octobre 1982.

Le dentiste qui se procure des éléments d'actif amortissable

Le budget de novembre 1981 proposait que les contribuables, y compris les dentistes, qui acquéraient des biens amortissables — comme des biens immobiliers, des automobiles, des meubles, des pièces d'équipement, des petits outils et des ustensiles — utilisés pour obtenir un revenu professionnel ou des bénéfices commerciaux pussent, la première année de leur acquisition, réclamer une déduction pour amortissement seulement à la moitié du taux habituellement accordé. Autrement dit, si un praticien avait acheté des accessoires de bureau qui, ordinairement, auraient été susceptibles de dépréciation au taux de 30 pour cent, il aurait pu réclamer, la première année, une déduction de 15 pour cent seulement.

Des avis émis par la suite ont exonéré les petits outils et les ustensiles de cette restriction qui, cependant, s'appliquera dans tous les autres cas en 1982 et au cours des années subséquentes.

Suivant ces modifications, si un dentiste prévoit qu'il devra acheter de pareils biens au cours de la prochaine année financière, il vaudra mieux pour lui de les acheter "tôt."

Par exemple, si un dentiste pour qui l'année financière prendra fin le 31 mars 1983, prévoit qu'il aura besoin d'un mobilier, d'un appareil ou d'une voiture pour son travail plus tard en 1983, il gagnera à faire l'achat en question "plus tôt" et avant le 31 mars 1983. Si l'article coûte 5 000\$ et que le taux de déduction pour amortissement est de 30 pour cent, l'achat effectué avant le 31 mars 1983 lui donnera droit, pour l'année financière 1983, à une déduction de 750\$ (soit la moitié de 30 pour cent de 5 000\$) et, pour l'année financière 1984, à une déduction de 1 275\$. Si l'achat a lieu après le 31 mars 1983, il n'aura droit à aucune déduction pour l'année 1983, mais devra attendre 1984 pour en réclamer une de 750\$ et 1985 pour en réclamer une de 1 275\$.

Le dentiste qui a des employés

À la suite d'un avis émis le 27 octobre 1982, le taux des contributions faites par les employeurs et les employés au Régime des pensions du Canada et à l'assurance-chômage augmentera d'environ 50 pour cent à compter de 1983. Dans le cas des dentistes qui ont un personnel salarié, cette mesure entraînera une importante augmentation des impôts tant pour les employés qui verront leur salaire net réduit que pour les dentistes qui seront obligés de faire des contributions plus élevées au gouvernement. Ces sommes pourront être particulièrement importantes pour un dentiste qui a une hygiéniste dentaire ou un dentiste à son service.

LE DENTISTE ET LES SOCIÉTÉS DE GESTION

Comme l'indiquait un article paru dernièrement dans le Journal de l'ADC, Revenu Canada est en train de procéder à une importante révision de la situation touchant les sociétés de gestion et des avis de nouvelle cotisation ont été émis. Par ailleurs, le budget de novembre 1981 pourrait fournir à Revenu Canada une arme supplémentaire pour l'aide à atteindre son objectif "évident" qui est d'éliminer toutes les sociétés de gestion au Canada. Le nouveau concept de "l'entreprise offrant des services personnels" semble couvrir les situations dans lesquelles un conjoint possède une société de gestion et où le conjoint fournit réellement des services au dentiste au nom de la société.

Toute société qui offre des services personnels verra ses bénéfices frappés d'un impôt d'environ 50 pour cent. Les

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Les bénéfices seront calculés en prenant le revenu brut de l'entreprise offrant des services personnels et en y déduisant seulement les salaires ou les autres avantages consentis aux employés qui fournissent de tels services.

Dans les cas où le conjoint d'un dentiste possède une société de gestion mais ne fournit aucun service, la société aura droit de déduire tous les salaires autres qu'un salaire raisonnable (vraisemblablement nominal) payé au conjoint ainsi que les autres dépenses. Le bénéfice net sera imposé à un taux d'environ 33 1/3 pour cent.

Par conséquent, lorsque le conjoint d'un dentiste détient des actions dans une société de gestion et qu'il fournit vraiment et personnellement des services au dentiste au nom de la société, il se peut que certaines dépenses comme les frais de téléphone, de voiture, d'intérêt et autres de la société de gestion ne soient *pas* déductibles et que le taux d'imposition applicable soit d'environ 50 pour cent. Quand ce risque se présente, on devrait songer sérieusement à faire en sorte que le conjoint ne fournisse pas de services par l'intermédiaire de la société de gestion, mais plutôt qu'il soit directement au service du dentiste.

Fait intéressant à noter, si la société de gestion appartient au conjoint qui ne fournit aucun service du tout ou qui est directement au service du dentiste, il se peut qu'on ne considère pas la société comme une entreprise offrant des services personnels. Dans pareil cas, cependant, les bénéfices sont limités aux majorations qui peuvent être imputées aux dépenses du dentiste. Bien entendu, vu les restrictions touchant les majorations qu'une société de gestion aura droit d'imputer au dentiste (à la lumière des politiques d'imposition de Revenu Canada), le montant des revenus qui peut être "détourné" du dentiste au profit de la société de gestion est limité.

En somme, il semble qu'il vaudrait mieux pour les dentistes de renoncer aux sociétés de gestion quand des membres de leur famille en font partie.

Le dentiste et le taux d'imposition

À la suite du budget de novembre 1981, le taux d'imposition "maximal" a été réduit d'environ 12 pour cent suivant la province. En 1982, d'après les "anciens" taux d'imposition, un dentiste de l'Ontario aurait dû verser 52,56 pour cent d'un revenu imposable allant de 53 376\$ à 86 736\$, 56,94 pour cent d'un revenu imposable allant de 86 736\$ à 133 440\$ et 62,78 pour cent d'un revenu imposable de plus de 133 440\$. Maintenant que les taux d'imposition ont été changés, il devra payer "seulement" 50,32 pour cent d'un revenu imposable excédant 53 376\$.

La réduction du taux d'imposition maximal représente un "cadeau" d'importance. En outre, elle rend moins désirables les abris fiscaux puisque, de toute évidence, le "coût" pour ceux qui n'y recourent pas est maintenant moindre.

Le dentiste qui effectue un emprunt à des fins de placement

Le budget de novembre 1981 contenait une proposition voulant que l'intérêt payé en rapport avec un placement soit seulement déductible en regard du revenu de placement obtenu durant l'année. Les frais d'intérêt en surplus auraient pu être "reportés sur les exercices subséquents" afin d'être appariés aux revenus de placement des années à venir. Cette proposition visait à empêcher les contribuables de faire des emprunts pour des placements qui ne produisaient pas un revenu courant mais qui rapporteraient un profit substantiel plus tard, probablement à des taux de gains en capital. Elle aurait également permis à l'investisseur de déduire tous les "surplus" des intérêts courants en regard d'autres revenus (par exemple, les revenus professionnels). Les investisseurs obtenaient donc des déductions courantes aux taux maximaux et différaient le paiement de l'impôt sur les bénéfices provenant des placements, lesquels auraient pu alors être imposés à la moitié des taux seulement.

Des avis subséquents auraient permis des exemptions importantes à ce règlement qui, pour des fins pratiques, aurait réduit son application aux placements immobiliers nouvellement effectués seulement (par exemple, les immeubles résidentiels à logements multiples — IRLM). Le 27 octobre 1982, la proposition entière a été retirée.

Toutefois, les frais d'intérêt pour les emprunts effectués afin de faire des contributions aux régimes enregistrés d'épargne retraite ne seront désormais déductibles en aucun cas.

Le dentiste et les placements immobiliers

Pour les biens immeubles et particulièrement les IRLM, les "coûts faibles" imputés avant l'achèvement d'une construction ne serait plus, à l'avenir, admis comme des dépenses déductibles. Les "coûts faibles" seront plutôt ajoutés au coût de la propriété ou au coût d'immobilisation de la construction et seront seulement admis comme déductions pour amortissement pendant les années subséquentes, servant ainsi à réduire les gains définitifs en capital.

Certains règlements spéciaux permettent de soustraire à ces nouvelles dispositions les projets commencés avant 1982 et qui ne seront pas terminés avant quelque temps. Tout comme pour les biens amortissables pour des raisons commerciales, les biens d'investissements donneront droit à l'acheteur, l'année de l'acquisition, à la moitié de la déduction ordinaire pour amortissement. Comme on l'a noté ci-dessus, tous les frais d'intérêt seront déductibles.

Le dentiste qui vend un bien immobilier

À l'avenir, sur toute vente de biens immobiliers ou de biens d'investissements, si le contribuable solde un hypothèque ou tout autre compte à recevoir, le gain total réalisé sur la vente doit être inscrit et assujéti à l'impôt dans un délai de cinq ans. Dans ce cas, 1/5 du gain est imposable chaque année, même si le dentiste ne touche pas la somme totale durant ces cinq années.

C'est pourquoi un contribuable, lorsqu'il vend un bien immobilier, doit s'assurer qu'il en touche la somme rapidement, sinon il risque de voir ses impôts excéder l'argent comptant qu'il reçoit durant les années qui suivent immédiatement la vente.

Le gouvernement a tout simplement aboli le contrat de rente à versements invariables qui permettait au contribuable de répartir d'importants gains en capital ou d'autres revenus particuliers sur un certain nombre d'années.

Les formules d'étalement du revenu qui, généralement et "automatiquement," permettaient au contribuable dont le revenu augmentait de façon spectaculaire (par exemple, un dentiste durant les premières années qu'il exerce sa profession) d'étalement ce revenu sur les quatre années précédentes, ont été abolies et remplacées par une nouvelle formule "d'étalement sur les années suivantes." Suivant cette formule, le contribuable peut payer couramment ses impôts au taux maximal sur n'importe quelle partie de son revenu et, au cours d'une année subséquente où son revenu baisse, demander que le revenu soit calculé en conséquence. La plupart des contribuables devraient opter pour cette modalité pour tout revenu imposable à un taux maximal. **Le dentiste qui détient des actions dans une corporation privée contrôlée par des Canadiens**

À la suite d'une série de modifications apportées depuis le 12 novembre 1981, lorsqu'un contribuable détient des actions dans une corporation qui a droit à la déduction complète consentie aux petites entreprises (c'est-à-dire un taux d'imposition d'environ 25 pour cent), il pourra seulement, pour les revenus des années d'imposition suivant l'année 1982, toucher les profits de la corporation sous forme de dividendes, si celle-ci acquitte un "impôt de

distribution" visant à assurer qu'elle paie un impôt équivalant à 33 1/3 pour cent de ses profits comme petite entreprise. Cette disposition touchera la plupart des corporations privées contrôlées par des Canadiens dont un dentiste peut faire partie, y compris les sociétés de gestion générales qui fournissent des services à de nombreux dentistes et à des institutions médico-dentaires constituées en corporations.

Le dentiste, sa maison et son chalet

À compter de 1982, une seule résidence principale sera permise pour un couple avec des enfants mineurs aussi longtemps qu'ils formeront une seule famille. Alors que, dans le passé, l'un des conjoints pouvait posséder une résidence à la ville et l'autre une résidence à la campagne, et que les deux avaient droit à des exemptions pour leur résidence principale, un seul conjoint pourra désormais réclamer une telle exemption.

CONCLUSION

Plusieurs des pénibles propositions fiscales qui ont été soumises en 1981 ont été adoucies ou éliminées. En outre, la baisse du taux maximal d'impôt constituera un avantage pour la plupart des dentistes. Toutefois, ceux qui avaient prévu de réorganiser leurs affaires en fonction des modifications qui ont été abandonnées ou changées, devront repenser leur planification.

On aura avantage à se rappeler qu'il reste plusieurs moyens de planification fiscale, tel le fractionnement des revenus de placement, qui n'ont pas été touchés par les dernières modifications fiscales.

Une dernière remarque, un nouveau budget est prévu pour le début de l'année 1983. Bonne année à tous!

La première journée des appels au président — un succès

Le 23 novembre dernier était la première journée pour appeler le président de l'Association dentaire canadienne, le Dr William R. Thompson. C'est le Dr Thompson qui a lancé l'idée et, selon lui, cette première journée a été un succès.

Il y a eu 15 appels en tout, dont sept des associations affiliées, et la plupart portaient sur l'adhésion à l'ADC. Les autres sujets avaient trait aux vérifications fiscales entreprises par Revenu Canada, aux ressources en personnel, aux avantages consentis aux dentistes salariés et aux catégories de membres particulières, au Journal de l'ADC, aux régimes de rentes et d'assurance

subventionnés par l'ADC et à l'assurance en général, à la Fédération Dentaire Internationale, aux spécialités et au programme d'assistance dentaire des Caraïbes.

Le Dr Thompson a déclaré que certains appels touchaient à des sujets qui demandent d'être discutés par le Conseil exécutif ou d'être soumis aux conseils et comités de l'association.

Un personne a suggéré que les CDSPI devraient présenter plus d'exemples comparatifs suivant le statut social et les différents groupes d'âge afin d'indiquer les avantages des CDSPI par rapport aux autres régimes d'assurance disponibles.

Une autre a exprimé l'avis que le Journal de l'ADC, parce qu'il est bilingue, a tendance à se répéter, surtout si l'on songe aux photographies.

D'après le Dr Thompson, il a été possible d'entretenir une conversation satisfaisante sur tous les sujets abordés. Aussi croit-il que cette première journée d'appels a atteint son objectif.

Trois autres journées sont prévues. La prochaine sera le 15 février, la suivante le 19 avril, et la dernière le 7 juin. Les membres de l'ADC sont invités à faire connaître leurs opinions.

Ceux qui désirent appeler le président sont priés de composer (613) 523 1770, en faisant virer les frais, de 8h 30 à 16h 30, heure normale de l'Est.

En bref —

Le corps législatif de la Nouvelle-Écosse a formé un comité spécial pour étudier le système d'administration des soins de santé de la province et son efficacité. De l'avis de M. Don Pamenter, directeur administratif de l'Association dentaire de la Nouvelle-Écosse, le comité tient des séances depuis septembre dernier environ et l'association devrait avoir son tour très bientôt.

Bien que la dentisterie soit un élément important du système d'administration des soins de santé de la province, a déclaré M. Pamenter, le comité n'a pas encore communiqué officiellement avec l'association.

En souvenir du regretté Dr James P. McGuigan qui s'intéressait grandement à la dentisterie et qui y a fait plusieurs contributions importantes, l'Association dentaire de la Nouvelle-Écosse vient d'établir une bourse d'études en son honneur.

Cette bourse sera offerte chaque année à un étudiant des Maritimes qui s'inscrira en première année à l'Université Dalhousie. Bien que les conditions pour la mériter n'aient pas encore été déterminées, l'ADNE espère recueillir une somme de 10 000\$ qu'elle utilisera pour former un capital dont les intérêts constitueront la bourse.

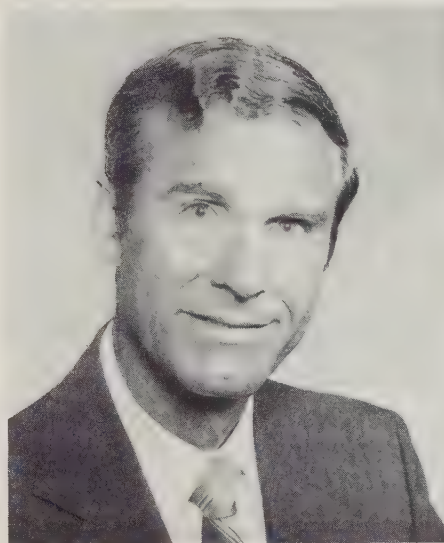
Décédé le 8 septembre 1982, le Dr McGuigan a obtenu son diplôme dentaire à l'Université Dalhousie en 1939 et a été praticien général à Halifax. Bien en vue dans sa profession, il a été membre à temps partiel de la Faculté dentaire de l'Université Dalhousie pendant 20 ans ainsi que président de l'Association dentaire de la Nouvelle-Écosse, du Conseil dentaire de la province et du Conseil de l'éthique de l'ADC.

Il a contribué au projet visant à promouvoir la construction de la nouvelle école dentaire de l'Université Dalhousie et il était membre du Collège international des dentistes.

Le Dr Michael Rennert, de Montréal, a été élu président de la North-eastern Society of Orthodontists lors de la 61^e assemblée annuelle de l'organisation. Cette assemblée a eu lieu à Montréal, du 13 au 17 novembre 1982.

Diplômé dentaire de l'Université McGill en 1963, le Dr Rennert a reçu son diplôme en orthodontie en 1965 de l'Université de l'État de New York.

Plus de 1100 orthodontistes du Québec, du Nouveau-Brunswick, de l'Île-du-Prince-Édouard, de la Nouvelle-Écosse et de Terre-Neuve ainsi que de l'est des États-Unis font partie de la NSO.



Dr Michael Rennert

Les cliniciens en table ronde auront la chance d'être reconnus professionnellement et d'obtenir un crédit en éducation permanente en participant aux cliniques en table ronde organisées par l'Académie de dentisterie générale.

Ces cliniques dont le thème sera: *A New Leaf on Learning* (Nouvelles connaissances en matière d'enseignement) auront lieu au Centre Sheraton de Toronto, du 16 au 20 juillet 1983, lors de la 31^e assemblée annuelle de l'ADG.

Les juges de l'Académie accorderont des points suivant trois catégories: le sujet, la présentation et la démonstration. Le prix *Vernon S. Johnson* sera attribué au clinicien dont la démonstration sera la plus remarquable. Des plaques seront re-

mises à ceux qui se classeront deuxième et troisième et il y aura un prix spécial à l'intention des étudiants.

Les dentistes, les étudiants dentistes et les groupes d'étude intéressés doivent s'inscrire pour le 30 mars 1983. Les cliniques en table ronde doivent respecter certaines règles. Pour d'autres renseignements, on s'adressera à: *Department of Meeting Planning, AGD, Suite 1200, 211 E. Chicago Avenue, Chicago, Illinois, 60611.*

Le Fonds canadien pour l'enseignement dentaire accepte maintenant les demandes de bourse de la part des personnes qui désirent obtenir une formation dans l'enseignement et la recherche, ainsi que des professeurs qui, présentement, enseignent dans les écoles dentaires.

Les candidats doivent être citoyens canadiens ou immigrants reçus, détenir un diplôme universitaire en dentisterie, en hygiène dentaire ou en sciences, être admissible aux études supérieures, et être intéressés à enseigner ou à faire des recherches au Canada dans une école dentaire ou dans le cadre d'un programme de formation pour auxiliaire dentaire.

La bourse du FCED à l'intention des professeurs universitaires en dentisterie est offerte par la firme Warner-Lambert Canada Inc. et est d'une valeur de 2 000\$.

Les candidats doivent être membres à temps complet du personnel enseignant de l'une des dix écoles dentaires du Canada et posséder au moins cinq années d'expérience dans l'enseignement universitaire. Cette bourse a pour but de permettre à un professeur de rafraîchir et d'étendre ses connaissances dans un domaine lié à l'enseignement ou à la recherche dentaire.

Les demandes pour ces bourses doivent être déposées pour le 1^{er} mars 1983. Pour d'autres renseignements, on s'adressera au doyen de l'une des écoles dentaires ou au bureau du FCED (44 Eglinton Avenue West, Suite 205, Toronto, Ontario, M4R 1A1).

Le bureau des abonnements du Journal de l'ADC désire faire une mise au point touchant les demandes d'abonnement pour une période d'un an. Les abonnements se prennent pour douze numéros qui correspondent à douze mois, mais ces douze mois ne sont pas nécessairement ceux d'une même année civile. Par exemple, si un abonnement est pris en mars, l'ADC n'enverra pas les numéros des mois de janvier et de février précédents, mais plutôt douze numéros à compter de celui de mars de l'année en cours jusqu'à celui de février de l'année suivante.

Le gouvernement fédéral a octroyé des bourses aux Drs Jean-Marc Brodeur, Paul Simard et André-Pierre Contandopoulos, de l'Université de Montréal, et au Dr Margery Forgay, de l'Université du Manitoba, pour leurs projets de recherche dentaire.

Les trois premiers ont reçu 96 270\$ pour étudier dans quelle mesure le rinçage hebdomadaire de la bouche avec du fluor est un moyen efficace pour réduire les caries chez les jeunes de 10 à 12 ans. Cette étude comprendra également une évaluation du traitement en rapport avec la consommation d'eau fluorurée.

Pour sa part, le Dr Forgay a obtenu 6 808\$ pour formuler des règles de recherche afin d'évaluer les aptitudes requises pour les hygiénistes dentaires diplômées.

Quinze bourses ont été accordées pour des projets de recherche liés aux disciplines de la santé, a annoncé Mme Monique Bégin, ministre de Santé et Bien-être social Canada, le 17 novembre dernier. Ces bourses atteignent la somme totale de 888 349\$ et sont distribuées par l'intermédiaire du Programme national de recherche et développement en matière de santé.

La Faculté de dentisterie et l'École d'hygiène dentaire de l'Université du Manitoba ont uni leurs efforts pour faire enquête sur la santé buccale des gens âgés de la région de Winnipeg.

Ce projet, le premier du genre au

Canada, a pour objectif général la santé buccale des vieillards à qui on recommandera des traitements au besoin. La Faculté de dentisterie espère que le projet sera, pour les citoyens âgés, une occasion d'améliorer leur état de santé buccale et de connaître mieux la dentisterie préventive, surtout dans les domaines de l'alimentation et de l'hygiène personnelle.

De l'avis du Dr A. Schwartz, doyen de la Faculté de dentisterie, ce projet aurait dû être lancé il y a très longtemps. Au début de l'année 1981, a-t-il révélé, un projet-pilote a démontré qu'on avait besoin de programmes semblables au Canada.

La Direction générale de la promotion de la santé de Santé et Bien-être social Canada a accordé une subvention de 70 300\$ pour le projet. Pour leur part, les Services de santé dentaire du Manitoba et les divisions des Services dentaires de la ville de Winnipeg fournissent des conférenciers et du matériel.

Le gouvernement a agréé officiellement le projet le 1^{er} novembre dernier. Les directives sont données par un conseil consultatif composé de huit personnes avec des représentants de l'Université du Manitoba, de la société *Age and Opportunity Incorporated*, de l'Association dentaire du Manitoba, de l'Association des hygiénistes dentaires du Manitoba ainsi que des divisions des services de santé dentaire provinciaux et municipaux.

Récemment, la Faculté dentaire de l'Université de la Colombie-Britannique était reconnue sur le plan international pour l'intensité exceptionnelle de ses activités dans le domaine de la recherche.

En effet, elle s'est classée au vingt-huitième rang parmi 998 institutions participantes lors de l'assemblée 1982 de l'Association internationale pour la recherche dentaire à la Nouvelle-Orléans.

Une étude portant sur les recherches effectuées par les diverses institutions du monde a révélé que l'Université de la Colombie-Britannique a accordé 750 000\$ aux chercheurs en

1981-1982. Il s'agit de la plus haute somme allouée par une université au Canada, compte tenu du nombre des habitants.

Des certificats de mérite ont été décernés aux personnes dont les noms suivent pour le travail qu'elles ont accompli en 1982 auprès du Conseil d'administration, d'un comité ou d'un conseil de l'ADC.

Il s'agit de: les Drs R.D. Kinniburgh de l'Alberta et R.D. Sexton de Terre-Neuve, membres du Conseil d'administration de l'ADC; le Dr J.W. Bradey, président du Conseil de l'éthique; le Dr P. Judd, président du Conseil des affaires étudiantes; le Dr D.J. Yeo qui vient de terminer son dernier mandat à titre de président du Conseil de l'éducation; les Drs J.F. Bégin, T.M. Dobbs et E. Freidin, membres du Conseil des soins de santé; le Dr M.J. Crompton, membre du Conseil des nominations; le Dr D. Gau, membre du Conseil des matériaux et dispositifs dentaires; le Dr P.Y. Lamarche, membre du Conseil de l'éthique; les Drs A. Osborn, G.H. Peacock et E.J. Raczak, membres du Conseil de l'éducation. Les autres récipiendaires sont: le Dr R.D. Sexton, représentant de Terre-Neuve auprès du Conseil exécutif; le Dr D.W. Banting, membre du Comité de l'agrément des produits; et le Dr G.C. Stirling, président du Comité du congrès de l'ADC et de l'ADO.

Pour obtenir le titre de membre à vie de l'Association dentaire canadienne, un dentiste doit avoir 65 ans ou avoir exercé sa profession pendant 40 ans ou plus. De plus, il doit être membre de l'ADC.

Les membres à vie de l'association ont droit à tous les services accordés aux membres réguliers, y compris un abonnement gratuit au Journal de l'ADC et une inscription gratuite à tous les congrès de l'ADC.

Tous les dentistes qui répondent aux exigences indiquées ci-dessus et qui désirent profiter des avantages d'une adhésion à vie, sont priés d'en faire la demande incessamment.

Si vous êtes assuré par le régime d'assurance des dentistes du Canada 1982 aussi a été une excellente année

Voici un aperçu des améliorations du régime d'assurance des dentistes du Canada annoncées ou apportées en 1982.

Assurance vie

- Réduction des primes de 10 % au 1^{er} janvier 1982.
- Augmentation de 10 % des garanties des participants, sans justification d'assurabilité, au 1^{er} janvier 1982.
- Versement immédiat en cas de décès.

Assurance invalidité prolongée

- Extension des garanties au delà de 65 ans.
- Indexation sur le coût de la vie à compter du 1^{er} janvier 1982 accordant une augmentation de la garantie originale de 10 % par an.
- Possibilité d'une indemnité mensuelle de \$ 500, sans justification d'assurabilité, à effet du 1^{er} janvier 1982.

Assurance des frais généraux

- Possibilité d'une indemnité mensuelle supplémentaire de \$ 500, sans justification d'assurabilité, à effet du 1^{er} janvier 1982.

Assurance du contenu

- Augmentation automatique de la garantie de 10 % à compter du 1^{er} juillet 1982.

Assurance de la responsabilité civile non professionnelle

- Annonce d'une augmentation des montants à partir du 1^{er} janvier 1983.

Assurance de la responsabilité civile professionnelle

- Annonce d'une augmentation des montants à partir du 1^{er} janvier 1983.

Assurance des diplômés et des auxiliaires

- Amélioration de l'offre d'assurance gratuite faite aux nouveaux diplômés, acceptée par un nombre record de dentistes.
- Annonce d'une amélioration des garanties des auxiliaires.

Améliorations d'ordre général

- Installation de nouvelles lignes gratuites pour améliorer le service offert à ceux qui ont des questions sur leurs assurances.

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Publications

Webster's Medical Office Handbook

G. & C. Merriam Company
\$10.95, 596 pages

This is a well-written, well-organized and useful reference book of some 597 pages, listed at \$10.95 (U.S.) which by any standards is an excellent price in this day and age. Although it is listed as a medical office handbook, it quite clearly is very applicable for dental practice and the advice given applies equally to both.

The most useful sections of the book are contained in Chapters 5-11, "The Telephone, A Public Relations Instrument" to "Book-keeping and Banking." While the publisher notes that it is an indispensable reference for medical secretaries and assistants, it also provides an even more valuable reference source to a new physi-

cian or dentist starting his or her practice. Since practice management is not well taught in health professional institutions in Canada, such a volume would be indispensable.

This manual should be considered an updated version of other publications of this kind, such as *Business Administration for the Dental Assistant*, by Ann Ehrlick, or the *Canadian Dental Association Handbook*, 2nd Edition, published by the Colwell Company as well as the *Medical Office Assistant* by Frederick & Kinn, published by Saunders & Co. While it may be considered as a good reference book, it is not as applicable to the Canadian market as some of the books listed above. It might be recommended that a section on

Canadian Medicare System, followed by a summary of principal features by province and a list of provincial addresses of Medicare agencies, would be extremely useful to the Canadian market. The Americanization of the book does not preclude its use in Canada but limits it to a small extent.

In summary, this book provides a useful adjunct to the library on health professional management for the busy practitioner and would be of use to both dental and medical practitioners starting out in practice.

This book was reviewed by David B. Shires, Professor and Acting Head, and G.C. du Bois, Administrator, Department of Family Medicine, Dalhousie University.

Handbook of Pediatric Oral Pathology

Steven D. Budnick

Year Book Medical Publishers, Inc.
Chicago, Illinois, 1981
soft cover \$20.00 (approx.) 312 pages

A Handbook of Pediatric Oral Pathology is a new publication with a unique focus in clinical oral pathology. The book originated from a post-graduate project and, in reading through the text, one senses academic enthusiasm mixed with a degree of uncertainty.

The handbook is divided into seven sections: "Congenital and Developmental Lesions of the Oral Cavity"; "Disturbances in Tooth Formation and Development"; "Infectious and Infectious-like Diseases"; "Odontogenic Cysts and Tumors"; "Diseases and Tumors of Bone"; "Benign and Malignant Tumors", and "Mucocutaneous Disease". For each disease there is a short discussion of clinical features, differential diagnoses, treatment and prognosis, together with black and white clinical photographs and/or radiographs, generally of good quality. To provide additional information there

is a short list of references at the end of each discussion. A cross-referencing system has been developed based on sequential numbering of each disease in addition to an abbreviated index. Included at the end of the book is a detailed, 20-page section that contains normal laboratory values.

Although the author states that the format is designed to facilitate quick reference and reading, the ability to use the handbook expeditiously is somewhat hampered because in many sections diseases are presented in no particular order. For example, in the chapter "Disease and Tumors of Bone", one progresses from *fibrous cysts* through inflammatory lesions to *hypophosphatasia* and *osteopetrosis*, which are followed directly by *solitary bone cyst*. *Fibrous dysplasia* and *histiocytosis X* are situated between *osteoblastoma* and *osteosarcoma*, while *cementoblastoma* is discussed under the heading of *osteoblastoma* with reference to a poor quality radiograph depicting a cemental lesion. Some illustrations are overcrowded with discrepancies between the figures

and the corresponding captions. In addition, there is an element of discontinuity throughout the book as a result of cross-referencing a number of differential diagnoses, giving a brief description of some and merely listing others. A one or two-line description of each differential diagnosis, together with appropriate cross-referencing, would have smoothed the way for the reader.

The sentence structure is very simple. Most of the actual text appears to have been constructed directly from draft notes by the addition of a verb and an occasional adjective. I personally found this prose style uninteresting and would have preferred short notes, especially for the purpose of scanning for a quick reference or review. The introduction to the section of normal laboratory values is well done but the section as presented is out of context with the rest of the book. It is too detailed and fails to provide for the reader a concise reference base of normal clinical chemistry parameters. Although the cross-referencing system works, it is initially confusing if one is used to index-

ng by page number rather than by disease number.

Considering that this publication is new and as yet untried, the author's failure to define his audience is understandable but some comment is necessary. As it exists in its present form, this book would serve as a useful adjunct to one's library and could be utilized for a quick review prior to an examination in general dentistry. The handbook could have some

value for a pediatric resident but would be of limited use for a dental specialist. I would not recommend utilization of this book in an undergraduate dental program as the treatment of the subject is superficial and assumes a basic knowledge of general and oral pathology.

A Handbook of Pediatric Oral Pathology presents an intriguing focus in the ever-broadening scope of clinical oral pathology.

Dr. Budnick has made a good beginning and one would hope that with continued revision and a clearer definition of audience this book may evolve into a minor but well recognized text.

This book was reviewed by R.W. Priddy, Assistant Professor, Chairman, Division of Oral Pathology, Faculty of Dentistry, University of British Columbia.

The Story of Impacted Wisdom Teeth

Dr. Joel Bern

*Quintessence Publishing Co., Inc.
Chicago, Illinois*

Dr. Bern received an award for excellence from the American Society of Oral and Maxillofacial Surgeons for the preparation of this patient information kit.

The material included in this kit is composed of three 8½" × 11" booklets entitled "The Story of Impacted Wisdom Teeth", "Advantages to the Early Removal of Wisdom Teeth" and "Impacted Wisdom Teeth in the Middle and Later Years". These booklets are prepared as an adjunct to a complete preventive program in the general practitioner's office prior to the planned extraction of unerupted teeth, or for the oral surgeon's office, to inform the patient and justify the professional opinions of both the general practitioner and specialist.

The booklets contain between eight to 18 pages each with well-illustrated drawings accompanied by a clear, simple text that any patient could understand. Also included with this kit is a pad of 50 recap sheets for distribution to the patients, which review the essential highlights of the three booklets. These recap sheets contain eight illustrated drawings in chronological order with accompanying captions. The highlighted statement at the bottom of the page is "Early Removal of Impacted Wisdom Teeth can be the Key to Avoiding Many Problems".

Also included in the kit is a rigidly mounted demonstration drawing with a marker pen. This demonstration board enables the practitioner to sketch the patient's condition and enlighten the patient or the parent that the planned surgery is essential. The pen marks are easily erased so that this demo-drawing can be used again and again. The pen is a black "vis-a-vis" available in most art and large stationery stores. A damp paper towel easily erases any marks that are made. The demo-drawing is covered by a specially designed plastic covering.

An instruction sheet for the dentist is included with helpful hints on the use of the material, which has been successfully tested in over 500 patients in the United States. It is suggested that these booklets be presented to the patients to read in a quiet room with the explanation that the enclosed material will provide the basic information he or she needs to understand what the practitioner will explain next.

Book I, "The Story of Impacted Wisdom Teeth", is divided into three sections, with the first section describing the development of wisdom teeth. The second section explains how wisdom teeth become impacted and the third outlines the problems caused by impacted wisdom teeth.

The second booklet beautifully illustrates the advantages of early prophylactic surgery indicating the problems that may be avoided

by surgical intervention at an age where the roots have not fully developed.

The third booklet explains thoroughly that, despite advice to the contrary, patients delay removal of third molars until symptoms occur and that the older person is more likely to be taking medications for cardiac, respiratory or other problems and thus is less able to tolerate surgery and anaesthesia necessary for removal of the third molar.

It is the responsibility of the dentist to inform his young patients in the late teens as to the existence and prognosis of the third molars. Any preventive program should include the prophylactic removal of impacted third molars and this kit reinforces that opinion. The booklets are a motivating device and will also save valuable chair-side time by eliminating repetitive explanations. I recommend it for the general practitioner or oral surgeon.

The only criticism I could offer is that the covers of the booklets are rather fragile because they are constructed of the same paper stock as the inner pages. I recommend that these booklets be protected by hard plastic slip-covers to make this excellent material more durable.

This book was reviewed by Paul Chapnick, DDS, FRCD (C), Associate Staff, Faculty of Dentistry, University of Toronto, and attending staff oral surgeon, Mount Sinai Hospital, Toronto, Ontario.

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Intentional and transitional vital root amputation

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SUMMARY

Root amputation today is a common procedure in periodontics. While most teeth that require root amputation are subjected to root canal therapy prior to surgery, some clinicians perform a vital root amputation. The literature concerning vital root amputation is reviewed and discussed. Two distinctive appellations for the procedure are introduced: intentional vital root amputation, and transitional vital root amputation. The former is aimed at long-term maintenance of pulp vitality, while the latter delays root canal therapy until after surgery. The discussion gives rationale and indications for both procedures.

The art of partial removal of tooth structure, such as root amputation, hemisection and bicuspidization, has recently been termed "amputodontology".¹ Regardless of the term used, the method of resecting part of the tooth in order to salvage the remaining portion and/or a neighbouring tooth, has gained growing attention in the last two decades.

Today, the procedure is commonly employed in dental practice, where it has been found to be reliable and uncomplicated. This procedure is indicated when more conservative therapeutic modalities cannot resolve the periodontal, endodontic or carious lesions.

The indications for root amputation and hemisection have been extensively explored.^{2,3} Basaraba⁴ in 1969 reviewed indications, rationale and techniques for tooth resection. The dentist should be familiar with these indications as well as the contraindications, as it has been demonstrated that definitive criteria and careful selection of the cases yield best results.^{4,5}

Most teeth that require root amputation are subjected to root canal therapy prior to surgery as part of their overall treatment plan. However, in some instances, endodontics is not performed. It is regarding this matter that the question of vital root amputation has been brought forward.

Sternlicht⁶ in 1963 was the first to report on a study aimed at maintaining the integrity of the pulp in teeth subjected to root amputation. Since then, investigation has been limited, with only a few studies directly designed to examine this issue. Consequently, almost 20 years later,

RÉSUMÉ

L'amputation radiculaire est aujourd'hui une procédure courante en parodontologie. Bien que la plupart des dents nécessitant une amputation radiculaire soient traitées endodontiquement avant la chirurgie, quelques unes font exception. Les auteurs présentent une revue et une discussion de la littérature sur l'amputation radiculaire vitale. Ils introduisent deux appellations différentes pour cette procédure: "Amputation radiculaire vitale intentionnelle" et "Amputation radiculaire vitale transitionnelle." La première a pour dessein la maintenance à long terme de la vitalité pulpaire tandis que la seconde reporte le traitement radiculaire après la chirurgie parodontale. La discussion donne la logique et les indications de ces procédures.

the question has not yet been answered completely.

The following review will attempt to show that none of the available data are conclusive regarding the method for vital root amputation, the need for root canal therapy following surgery, and the interval between the two procedures, if both are to be carried out.

HISTORICAL REVIEW

A prevalent mistake in the dental literature concerns the pioneering works in the field of root amputation. G.V. Black is often referred to as being the first to practise and record the procedure in 1886. Although his works are undoubtedly part of the pioneering efforts in amputodontology, Farrar⁷ deserves the credit for being the first to utilize and report this treatment modality. He published an article in 1884 on "radical and heroic treatment of alveolar abscess by amputation of roots of teeth." In this publication the author made a prophetic statement regarding the acceptance of the new technique: "... yet the time will come when it will not only be considered as highly scientific, but will be endorsed by all progressive operators."

While both these pioneering studies appeared in the late 19th century, the following 60 years produced very little published material. Soon after the turn of the century, the medical and dental professions entered the era of "focal infection."⁸ The enthusiastic acceptance of this theory was clinically translated into a very radical therapeutic ap-

proach. During this period, all questionable teeth were readily removed, and for this reason, root amputation as a therapeutic treatment attracted very little attention — not because it was unsuccessful but because it dealt with the therapy of severely involved dentition — an approach which could not fit into the philosophical outlook of dentistry at that time.

In the early 1950's, when emphasis centred on the preservation of the natural dentition, some of the old techniques surfaced — among them root amputation. Messinger and Orban⁹ in 1954 and Salman¹⁰ in 1958, started the trend, later to be followed by many others. While endodontic considerations are not an issue in the early reports of Farrar and Black (as this science was in its infancy at the time), the more recent studies have included root canal therapy prior to the surgical amputation as an integral part of the regimen. Messinger and Orban found it unnecessary to rationalize this approach, while Salman only stated that the decision for such a sequence followed "... proper clinical judgment made on surgical, biological and physiological principles." But even Salman failed to give details or mention the studies upon which he based these conclusive remarks.

CURRENT REVIEW

In the 1960's and early 1970's, the issue of vital root amputation fostered growing attention in the dental literature. The general consensus at that time required that root canal therapy, or at least pulpal extirpation, be accomplished prior to surgery (Basaraba,⁴ Weine,¹¹ Ingle,¹² Amen¹³). The concern of these authors was related to the "well known fact" that necrosis is the constant companion of inflammatory changes within the pulp. While clinicians all know by experience that injured pulp can recover, they still lack reliable diagnostic criteria for predicting whether the injured pulp will recover rapidly or slowly — if at all.

Several researchers have considered the long-term maintenance of pulp vitality after vital root amputation. This procedure is better termed "intentional vital root amputation." Sternlicht⁶, in his original work, performed vital root amputation on 13 teeth: calcium hydroxide paste was packed around the stump and a zinc-oxide eugenol-type surgical dressing placed over the flap. An attempt was made to cover the stump with acrylic, but the cap soon fell off. Antibiotic coverage followed the surgical intervention. Postoperatively, almost all the involved teeth exhibited an increased thermal sensitivity which gradually progressed either to an acute pulpitis or pulp necrosis.

Nevertheless, this study revealed that since no severe problems ensue immediately as a result of the amputation, the precise and laborious root canal therapy may be deferred to a somewhat later time, when a more certain evaluation can be made as to the probable success of the entire procedure. It also turned out that three of the 13

cases were entirely successful, with the pulp retaining its vitality and the tooth functioning normally. The weak points in this study relate to the lack of standardized materials and methods, the vague assessment of the pulp condition, and the lack of information regarding the periodontal condition of the patient.

Haskell^{14,15} and Haskell and Stanley¹⁶ examined even more fundamental question regarding the necessity for root canal therapy in conjunction with upper molar root amputation. In their work, a cut was made through the radicular canal to minimize the size of pulp exposure. After a primary clot was achieved, calcium hydroxide was placed into a prepared cavity in the stump, followed by zinc-oxide eugenol paste and amalgam seal being delivered with minimal pressure. A 90 per cent success rate was reported over a very protracted period (several years). Clinically, nine out of the original 10 teeth were found vital and functioning. One of these was examined histologically, nine years postoperatively. It revealed a partial dentine bridge in the amputated site, with the rest of the pulp unchanged. From their results the authors concluded that vital root amputation had considerable merit in the treatment of advanced periodontal disease. When they assessed the critical factor which determined success in their work, the authors concluded that it was due to the aseptic conditions under which the entire procedure had been conducted.

This unique investigation has put some question on the validity of the common endo-perio approach to root amputation. Haskell and Stanley¹⁷ have recently repeated their original work, with similar results (75 per cent success over one year). No significant difference has been found with periodontal surgery performed at the time of or prior to the vital root amputation.

A comprehensive study was performed by Smukler and Tagger¹⁸ in 1975. Their study was designed to examine the effect of delaying root canal therapy for two weeks after the amputation in periodontally involved teeth. Such a procedure can be referred to as "transitional vital root amputation." Both the clinical and histological aspects were monitored. No medication was applied so that the vitality of the pulp could be assessed. The radicular pulp of the extracted roots served as internal control; histological examination of these tissues almost consistently exhibited normal pulp, free of inflammation. This finding has recently granted support from a study by Czarnecki and Schilder¹⁹, who found no correlation between the presence and severity of the periodontal disease and pulpal changes.

In the former study, on the other hand, two weeks later the extirpated pulp was marked with inflammatory changes throughout the specimen. Clinically, however, increased thermal response was observed in less than half the subjects, none of which developed into clinical acute pulpitis. The study indicates that root canal therapy can be delayed for at least two weeks after root amputation.

with minimal risk of acute pulpitis developing during that period.

DISCUSSION

Intentional vital root amputation

From the data available to date, it appears that there is a use for intentional vital root amputation as a therapeutic technique in dentistry (Figs. 1a and 1b). The biological rationale for this procedure is related to the coronal anastomosis of the blood vessels from the roots. However, this collateral circulation is not always extensive enough to nourish the entire pulp in the presence of intentional vital root amputation.²⁰

An understanding of the anatomy and biology of the tissues involved, together with strict criteria for selection of cases, are essential to ensure success. The following factors are important considerations.

A favourable medical history is necessary, not only as a general prerequisite for any surgical intervention, but also

because the innate response of the host plays a role in the maintenance of pulp vitality after extensive trauma.

Age is another parameter — Bernick, in 1973, reported that as the tooth becomes older, there is an apparent decrease in the number of demonstrable blood vessels in the pulp. The pulp exhibits an increase in collagenous fibres and foci of calcified masses. There is a marked loss of terminal capillaries which supply the odontoblasts. If we assume that profused blood supply is necessary for pulp survival, success has a negative correlation with age. Trying to extrapolate from associating procedures, pulp capping and apexification, age seems to be a critical factor correlated with success.²¹⁻²³ While Haskell's studies seem to contradict this statement, his sample of aged patients was too small to draw positive conclusions.

The preoperative status of the pulp also seems to determine the prognosis. However, the methods of evaluating this factor are not very accurate.²⁴ One cannot over-emphasize the importance of aseptic conditions during and after the surgical procedure. Kakehashi et al²⁵ exposed the pulp from first molars of germ-free and conventional laboratory rats. They found that only the uninfected pulp survived the injury, and that repair occurred by dentinal bridges. In bacteria-exposed rats, necrosis of the pulp, granulomas and abscesses occurred at the apex. This experiment emphasized the need for aseptic procedures and a perfect sealing of the exposed stump.

Minimal exposure of the pulp and minimal disruption of its blood supply are needed to promote success. This indicates that the procedure should be restricted to the facial roots of upper molars. A radicular plane of sectioning is preferable, not only to minimize the size of the exposure, but primarily because the blood vessels and odontoblasts in the pulp chamber appear to be diminishing towards its floor.²⁶ On the other hand, a more coronal plane of sectioning will result in reduced healing potential and consequently a lesser rate of success.

2 Transitional vital root amputation

Pain is an infrequent finding in the weeks immediately following the amputation.^{6,19} Despite the histological finding of inflammatory changes in the residual pulp, clinical signs are rare. Such is the rationale for the treatment of transitional vital root amputation (Figs. 2a, b and c).

The biological basis for this technique has been discussed by Van Hassel,²⁷ who found that increased pain sensitivity in acute pulpitis is directly related to increased intra-pulpal pressure. In our situation, following transitional vital root amputation, the immediate inflammatory response takes place in a chamber that has lost its seal. Consequently, pressure cannot build up and clinical signs of acute pulpitis are rarely encountered in the first weeks of healing. As healing progresses, clinical signs of acute pulpitis may develop or the pulp may lose its vitality.

In spite of the evidence for transitional vital root amputation, sectioning of teeth would suggest that when-

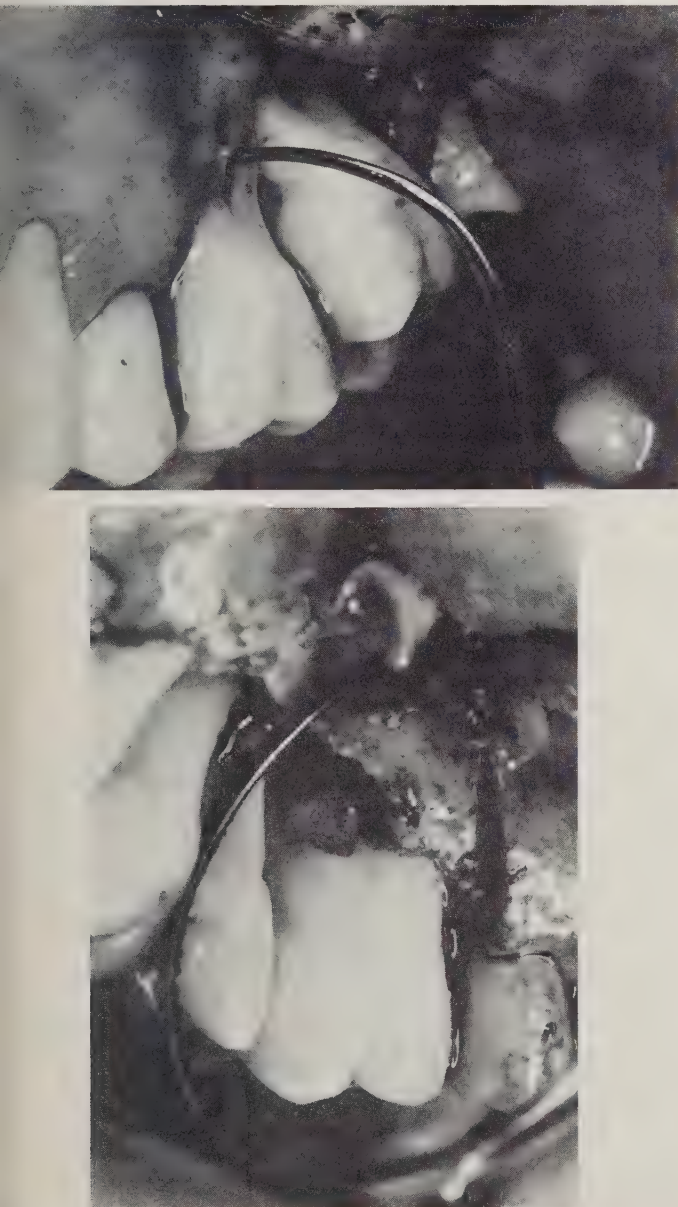


Fig. 1 — (a) Severe bone loss around distal buccal root of upper first molar. (b) The root has been vitally resected and the pulp capped.

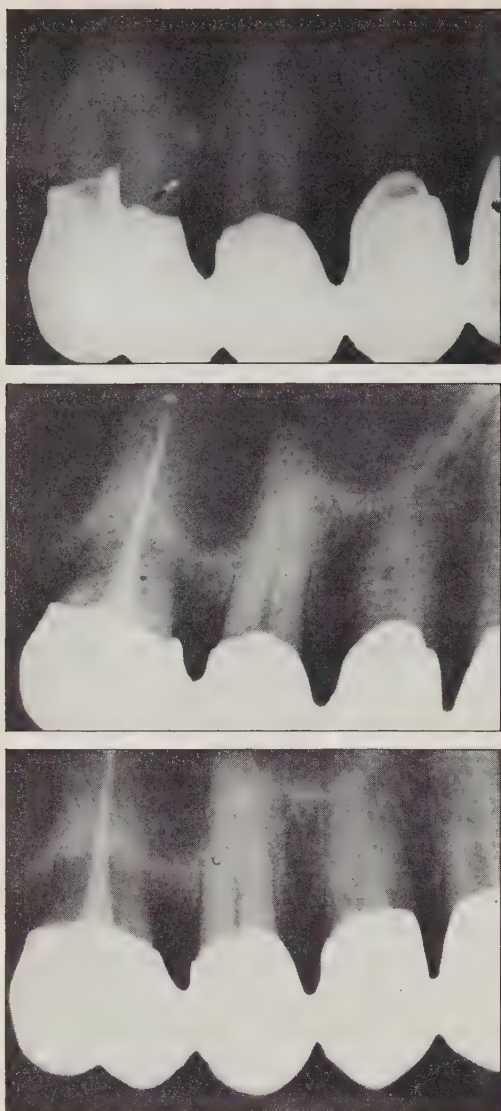


Fig. 2 — (a) Severe periodontal involvement, upper first molar. (b) Vital amputation of both buccal roots, followed by root canal therapy (radiographic appearance 6 months later). (c) Same tooth 10 years later.

ever root canal therapy is planned, this procedure — or at least pulpal extirpation — should be completed prior to the surgical phase. Such a sequence will help overcome some of the following disadvantages:

- 1 Endodontic difficulties with the remaining roots, preventing successful treatment.
- 2 Early development of acute pulpitis in a previously inflamed pulp.¹¹
- 3 Unexpected delay in endodontic therapy which might bring the patient into the clinical acute phase.
- 4 Problems in obtaining good anaesthesia.¹⁸

Transitional vital root amputation is indicated: (a) when the procedure was not expected preoperatively, (b) when the overall prognosis is questionable, and (c) when the specific root to be removed is yet to be determined at the time of surgery.

Lastly, there are still some contentious issues regarding the procedure. The safe time interval between the transitional vital root amputation and the root canal therapy has not yet been properly established. At present, we

know that two weeks are safe, but what about three or more, since root canal therapy in the presence of more mature periodontal tissues is likely to yield better results?

What is the best method for vital root amputation? Both calcium hydroxide and medication-free methods have been proven effective, but whether one is superior to the other is still questionable, as no comparison studies have been undertaken.

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Molar endodontic surgery

John V. Cambruzzi DDS
and
F. James Marshall DMD, MS

ABSTRACT

Apicoectomy of molar roots will expose two canals in a significant number of mesiobuccal roots of maxillary molars and mesial and distal roots of mandibular molars. Furthermore, a significant number of these roots will have an isthmus of pulp tissue joining the two canals. This isthmus must be obturated by a retrograde amalgam to ensure periapical healing.

Apicoectomy followed by a retrograde amalgam seal is a valuable adjunct to endodontic treatment. This procedure is particularly indicated when retreatment of a tooth is not possible due to the presence of a post, the presence of a separated instrument in the root canal or when orthograde (non-surgical) root canal treatment is not possible due to calcific obliteration of the root canal. The procedure is also indicated when a one appointment combined orthograde-surgical approach is indicated.

In the past, most endodontic surgery was limited to the anterior maxillary teeth. With specially designed instruments and advanced surgical techniques, the apicoectomy with retrograde amalgam procedures can be performed on any tooth or root where there is sufficient access to the surgical site. It is not uncommon for endodontists to perform this procedure on buccal or lingual roots of maxillary teeth and roots of mandibular bicusps and molars.

Endodontic surgery involving roots of posterior teeth, however, must be carefully planned. Case selection requires special attention to at-risk anatomical structures located within the surgical site and to anatomical features which may make access to the root apices difficult if not impossible. Diagnostic pre-operative radiographs taken from several angles are essential. Palpation and sounding of the surgical site are also important in helping to decide whether or not surgery is feasible and how it is to proceed.

The potential difficulties of mandibular molar surgery are mainly related to the inferior alveolar and mental nerves. The inferior alveolar neurovascular bundle generally passes through the mandible slightly below and lingual to the root apices of the first and second molar. A superior mid-root approach to the apices of mandibular molars and bicusps avoids damage to this structure. Trauma to the mental nerve can be avoided by utilizing flap designs that allow the placement of retraction instruments away from the mental foramen. Vertical releasing incisions should be short and kept well away from the mental foramen. A prominent buccal shelf of bone is sometimes found overlying the second and third molars. When this shelf cannot be adequately removed and prevents access to the apices of these teeth, apical surgery is not possible.

Maxillary molar surgery is not as difficult as mandibular molar surgery except for the palatal root. Generally, the buccal roots of maxillary molars lie just below the surface of the maxilla and are readily accessible for treatment. When the buttress of the zygomatic arch is prominent and overlies the apices of the first and/or second molars, more bone removal than normal will be required for adequate access, but treatment is still possible.

The palatal root of maxillary molars, however, is always difficult to treat with an apicoectomy and retrofill. Good access and visibility requires that the patient have a high arched palate and a minimal thickness of bone overlying the apex. The palatal flap must be large and sufficiently extended to ensure access to the apex with minimal retraction tension and minimal trauma to the greater palatine nerve and artery. This usually requires a flap that extends from the third molar of the treated side to the cuspid on the opposite side. Cases have been reported of palatal bone necrosis due to excessive retraction instrument pressure required to stretch a too small flap to increase access.¹

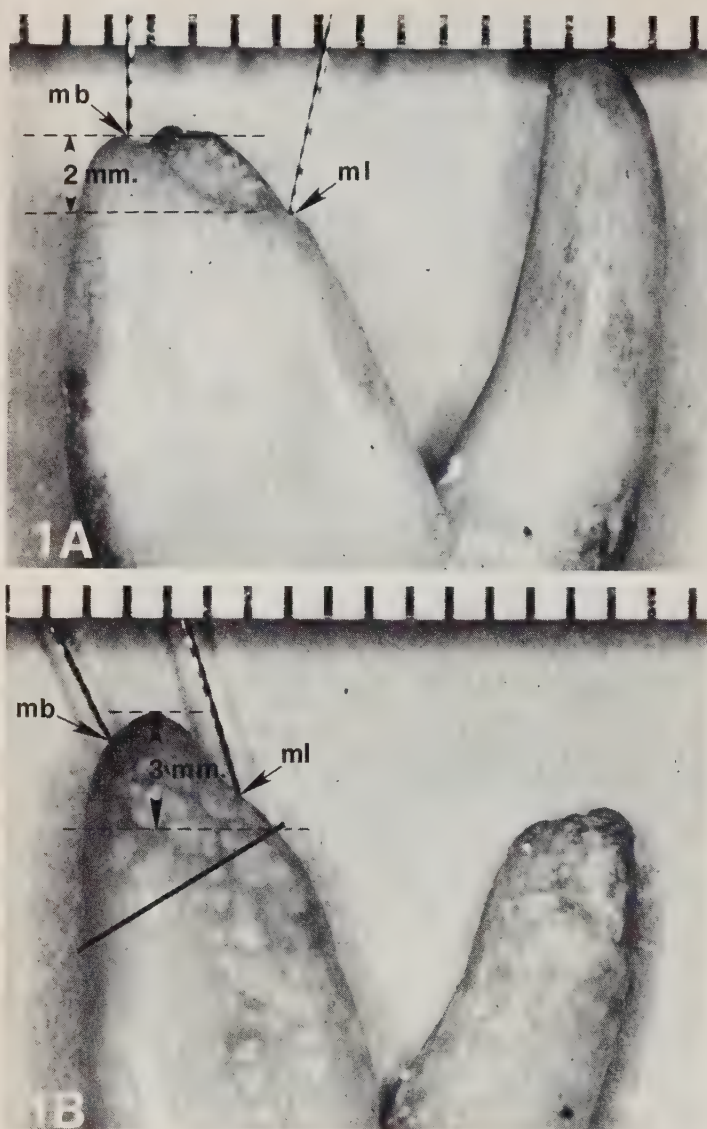


Fig. 1 (A & B) Mesial view of the mesiobuccal root of two maxillary first molars with files exiting from the mesiobuccal (mb) and mesiolingual (ml) canals. Fig. 1A shows that the removal of 2 mm. (the often recommended amount) of root tip might not include the lingual canal. Fig. 1B shows the amount of resection advocated in this study.

The root anatomy of molar teeth and their possible variations must be completely understood to ensure that the apex of each root is adequately resected and that all canals are included in the resection. The roots of maxillary molar teeth have a generally round cross section except for the mesiobuccal root which is ovoid and wide in a buccal-lingual direction. The roots of mandibular molars are also ovoid and flattened in a buccal-lingual direction. The buccal lingual width of all roots should be determined when possible, pre-operatively by radiographs exposed with the incident X-ray beam directed from the distal. Oval roots should always be examined for the presence of more than one canal. Approximately 87 per cent of mesial roots of mandibular molars contain two root canals as well as 26 per cent of the distal roots.² Likewise, approximately 52 per cent of mesiobuccal roots of maxillary molars contain two canals.

Surgical access for retrofilling the buccal and lingual canals in an oval root requires that the root be resected or

bevelled at an angle of approximately 45 degrees from the buccal surface. This bevelling removes considerable buccal bone and root substance. When the buccal bone is removed completely or when the remaining bone is non-viable, the periodontal stability of the root and tooth becomes questionable and root amputation must then be considered.

Besides removing and/or filling the uncleaned and unfilled major canals, the lateral and accessory canals in the apical 2-3 mm. of the root must also be eliminated.^{4,5} The bevelled resection must be designed to remove the apical 2-3 mm. or more. When the lingual canal ends short of the buccal canal, as is frequently the case with molars and teeth with bifurcated roots (Fig. 1 & 2), more buccal bone and root must be sacrificed to obtain access to the lingual canal as well. Pre-suture radiographs should always be taken to ensure that both the buccal and lingual canals have been incorporated in the retrofilling. The case in Fig. 3 illustrates the revision that was necessary for the amalgam retrofilling to seal both canals.

Isthmuses of pulp tissue joining the two major canals within a single root are frequently overlooked and they pose a major problem when oval roots are resected (Fig. 4). The mesiobuccal root of the maxillary molar and the mesial and distal roots of mandibular molars all have the potential for an isthmus, reported as often as 65 per cent of the time in the mesiobuccal root of mandibular molars. The retrograde amalgam filling must not only fill the two major canals but must also fill the isthmus. This extra filling requires the knowledge that this condition exists, special methods for its location and a slot-like preparation.

In order to better demonstrate the molar root canal anatomy pertinent to achieving a successful retrograde amalgam seal, apical resections of the mesial and distal roots of mandibular molars and the mesiobuccal roots of maxillary molars were made using extracted human teeth.

METHOD

A total of 108 extracted first and second mandibular molars and 103 extracted first and second maxillary molars were randomly collected from dental practices in the Portland, Oregon area. Observations of any significant root anomalies were recorded prior to root resection. The apices of the mesial and distal roots of the mandibular molars and the mesiobuccal root of the maxillary molars were resected at a 45 degree bevel from the buccal surface with the lingual edge of the cut at least 3 mm. from the anatomical apex (Fig 1A). The resected surface was then wet with methylene blue dye* for 1-2 minutes and then rinsed with water. The dye further enhanced the visibility of the exposed root canal anatomy. A record was made of the presence of isthmuses and the number of canals visible in the plane of resection.

*USP Methylene Blue (sterile ampules) American Quinine Hospital Division of National Chemical Co. Inc., Plainview, N.Y. 11803

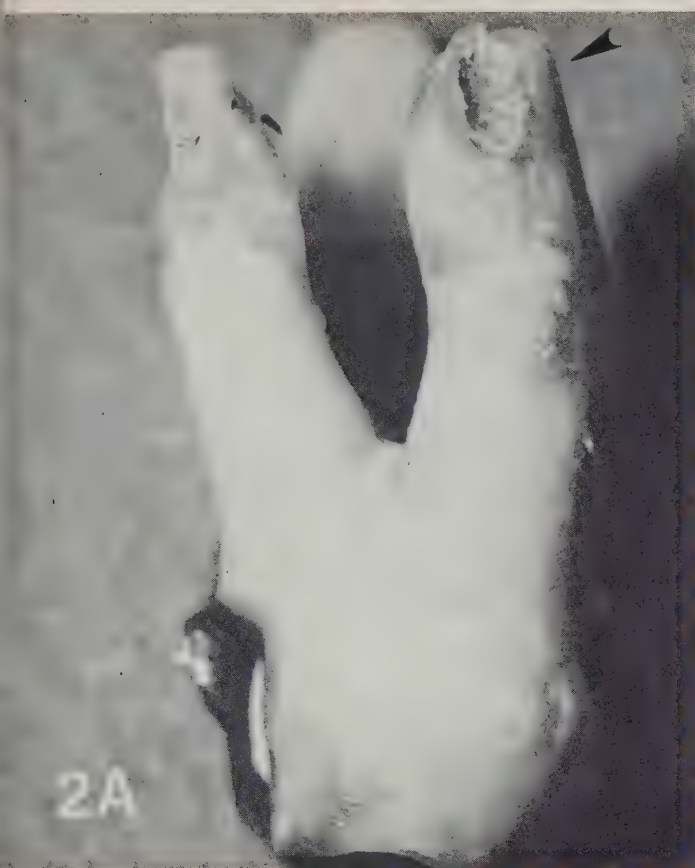


Fig. 2A Buccal view of the mesial root of a maxillary molar extracted when apicoectomy with retrograde amalgam failed to relieve the patient's symptoms.



Fig. 2B Mesial view of the same mesial root. Note that the inadequate apical resection did not include the lingual (L) canal. Adequate removal of tooth to expose the lingual canal might require total root removal for periodontal reasons.

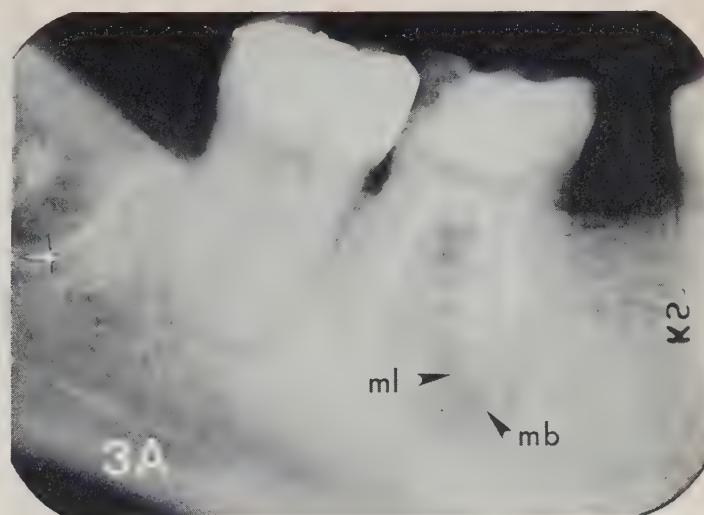


Fig. 3A Pre-surgery radiograph of a mandibular molar exposed with a distal angulation. Note the periapical radiolucency and the separate mesiobuccal (mb) and mesiolingual (ml) apices and root canals.

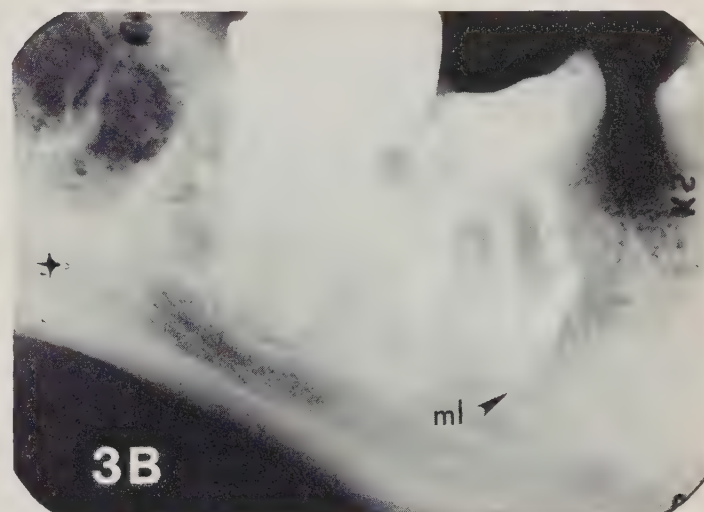


Fig. 3B Pre-suture radiograph showing the inadequately resected mesiolingual apex. Note that the apical amalgam does not completely cover the lingual canal.



Fig. 3C Final radiograph showing the further resection and the apical amalgam that now covers (seals) the two main canals and the isthmus of the mesial root.



Fig. 4 Photomicrograph (10X) of a cross-section, 3 mm. from the apex, of the mesial root of a mandibular molar. Note the amount of remaining debris in the uncleared isthmus.

RESULTS

The results are tabulated in Table I. The incidence of an isthmus joining two canals in the resection plane of the mesiobuccal root of maxillary molars was 30.1 per cent. For mandibular molars, the incidence of an isthmus in the mesial root was 60.2 per cent and for the distal root the incidence was 14.8 per cent.

Two distinct separate canals not joined by an isthmus were noted as follows: mesiobuccal root of maxillary molars, 18.4 per cent; mandibular molar mesial root, 17.6 per cent, and distal root, 18.4 per cent.

A single canal was noted in 51.5 per cent of mesiobuccal roots of maxillary molars. The mandibular molar had only one canal evident in 22.3 per cent of the mesial roots and 81.5 per cent of distal roots.

Another significant finding was the presence of a third smaller root, buccal to and separate from the main distal root in two of the 108 mandibular molars. In addition, two other mandibular molars had a C-shaped root canal con-

figuration in which both the mesial and distal roots were fused in a C-shaped configuration, and when apically resected, a C-shaped isthmus was found to join all the root canals.

An example of our procedures and findings is illustrated in the following case report.

CASE REPORT

May 11, 1981: A 32-year-old white female presented complaining of "continued pain and soreness" in the area of the maxillary left first molar one year following retrofilling of the buccal roots of this tooth. Clinical examination and radiographs determined that the problem was chronic apical periodontitis of the mesiobuccal root. Note the radiolucency on the mesiobuccal root (Fig 5). Surgery was elected, anticipating from the preoperative radiograph that a second mesiobuccal canal must still remain uncleared and unfilled by the previous orthograde treatment and subsequent apical amalgam. During the surgery the mesiobuccal root was resected more extensively and a second lingual canal was found and enlarged. A slot preparation between the two canals was also made when the presence of an isthmus was outlined by the Methylene Blue dye. Healing was uneventful and there was no residual pain at the one month recall. The patient's healing will be monitored during subsequent recalls.

DISCUSSION

The results of our study and the case report show that root resection will expose two canals as well as the isthmus joining these canals in a significant number of mandibular molar roots and the mesiobuccal root of maxillary molars. Care must be taken to ensure that a sufficiently extensive resection has been made, that access has been gained to both buccal and lingual canals in these roots, and that the apical 2-3 mm. has been removed from each root. Careful inspection must be made for the presence of an isthmus joining the two major canals. If an isthmus is present, it will be necessary to join the buccal and lingual root canals with a buccolingual slot prepara-

Table I
Incidence of an isthmus joining two canals in single roots of molar teeth following apicoectomy

Tooth Root	Presence of Isthmus Joining Two Canals	Isthmus Not present		Total
		Only One Canal	Two Distinct Canals	
Mesiobuccal root Maxillary molar	31 30.1%	53 51.5%	19 18.4%	No. 103 % 100
Mesial root Mandibular molar	65* 60.2%	24 22.2%	19 17.6%	No. 108 % 100
Distal root Mandibular molar	16* 14.8%	88 81.5%	4°* 3.7%	No. 108 % 100

* Includes two cases of C-shaped root canals where an isthmus of pulp tissue joins all canals of both roots (1.9 per cent incidence).
° Includes two cases with completely separate distal roots (1.9 per cent incidence).



Fig. 5A Pre-operative radiograph of a maxillary molar one year following apicoectomy and apical amalgam seal. Note the periapical radiolucency and round shape of the amalgam in the mesiobuccal root. The tooth was tender to biting and sensitive to buccal palpation. An unfilled extra mesial canal was suspected.



Fig. 5B Post-operative radiograph showing a more extensive root resection. Note the oval shape of the new amalgam connecting two major canals and isthmus in the mesiobuccal root. The tooth is now asymptomatic.

ion so that both canals and the isthmus can be filled with amalgam at one time and the root canal system sealed.

The incidental finding of two teeth with C-shaped root canal systems points out the impossibility of achieving 100 per cent success with orthograde endodontic treatment alone. Cooke and Cox⁸ described four cases of C-shaped root canals, none of which could be seen in pre-operative radiographs. Orthograde treatment of this condition is difficult at best and often necessitates a retrograde filling approach.

Staining with Methylene Blue dye should be added to the procedure of apicoectomy with retrograde amalgam to more easily trace the anatomic and root canal outlines of the resected root surface in vivo. When Methylene Blue dye is dabbed onto the resected root surface with a sterile cotton pellet and then washed off after 1-2 minutes, not

only are the canals and isthmus more readily seen, but the periodontal ligament is also stained thereby clearly outlining the root (Fig. 6). The ability to delineate the root from the bone is difficult at times due to bleeding or root anatomy variations. The ability of Methylene Blue dye to outline the root will ensure a more complete resection. The use of this dye was originally copied from its use in general surgery where it is injected into sinus tracts to outline their path prior to surgical excision. It has been successfully used by the authors to delineate incisive canal cyst tracts.

SUMMARY

The apices of the mesiobuccal root of 103 extracted maxillary molars were resected at approximately 45 degrees to the buccal surface. The mesial and distal roots

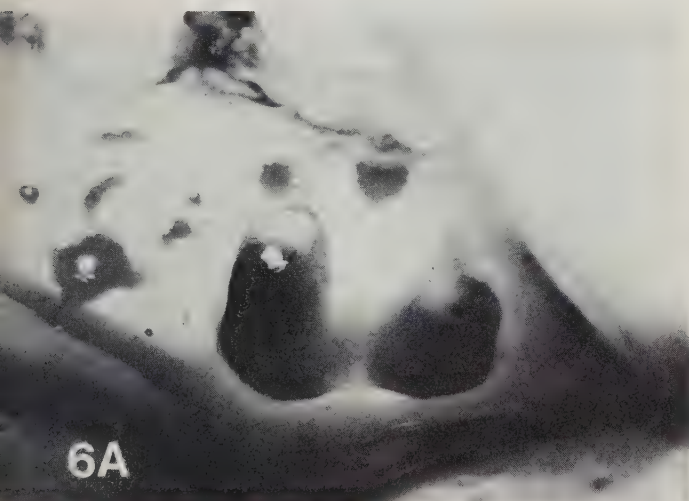


Fig. 6A Photomicrograph of apical surgery on a mandibular molar showing the buccal access and apical resection.

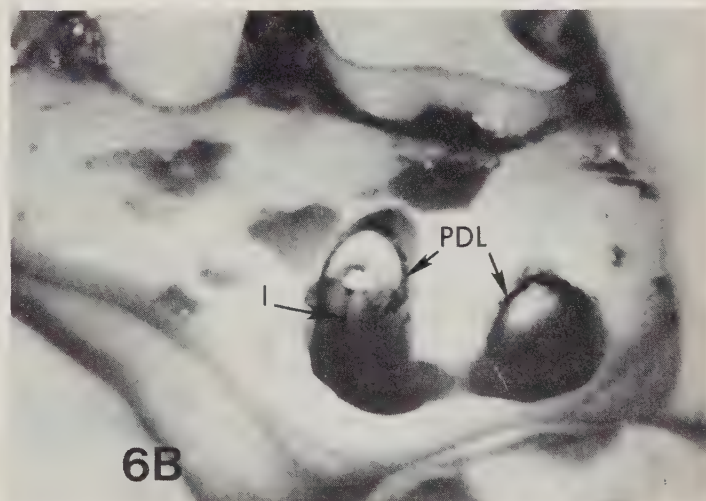


Fig. 6B Photomicrograph of the resection following vital staining with sterile Methylene Blue dye for one minute followed by water wash. Note the enhanced root outline by the dye stained periodontal ligament (PDL) and also note the stained isthmus (I) and canals.

of 108 extracted mandibular molars were likewise resected. The incidence of an isthmus joining two canals in single roots of molars was noted as follows: maxillary molar mesiobuccal root, 30.1 per cent; mandibular molar mesial root, 60.2 per cent, and distal root, 14.8 per cent.

The presence of a root canal isthmus in apicoectomized roots of molars must be seriously considered when surgical treatment is planned. The isthmus must be incorporated in the amalgam retrofill preparation in order to ensure complete apical sealing of the root canal system with amalgam.

The use of Methylene Blue dye in vivo is advocated as an aid in visualizing the outline of the resected root surface and the presence of an isthmus.

A case report was included to illustrate the importance of adequate root resection and retrofilling technique for successful surgical resolution of a periapical lesion.

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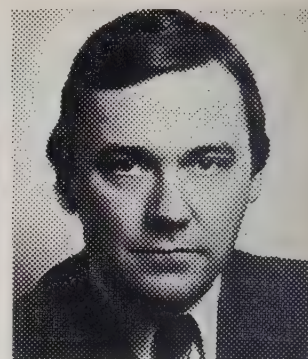
Phone: (503) 225-8962

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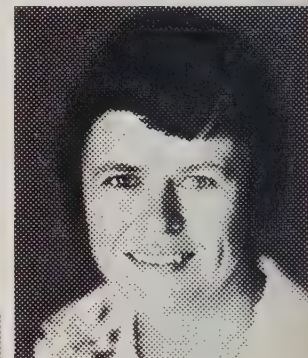


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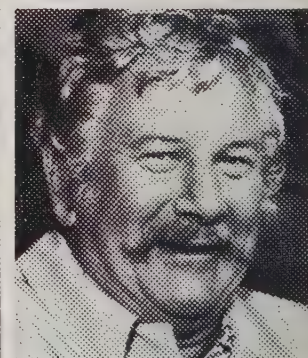


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Reference

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Announcements

1983 CANADA

January/janvier

The Ottawa Dental Society presents "Orthodontics" by Dr. Gavin James of Orillia, Talisman Motor Hotel, Ottawa, January 17, 1983, from 9am to 5pm.

February/février

Joint Meeting of the ODS, ODN&AA, and Hygienists will be held in Ottawa, February 21, 1983. Table clinics, commercial exhibits and films will be held. The theme is "Debugging your Dental Office."

March/mars

The Canadian Dental Curling Championship, in conjunction with the Western Canada Mid-Winter Dental Convention, will be held in Calgary, Alberta, March 9-12, 1983. Convention speaker Dr. Hank Shimbashi, whose topic is "Introduction to Neuromuscular Occlusion and Myo-tonics", will speak on March 9, 2-5 pm, at the Palliser Hotel. Registration for the Bonspiel and/or Wednesday lecture can be made by contacting Dr. R. Taillon, 202-1711-4 Street S.W., Calgary, Alberta T2S 1V8; 264-7162.

A Periodontal Symposium, presented by the Ottawa Dental Society, will be held at the Talisman Motor Hotel, Ottawa, March 28, 1983, from 9am to 5pm. Speakers are Drs. Myron Poplove, Richard Yamaoka, James MacDonald, Jean-Marc Vincent, André Marcil, Dan Morrow, John Morrow, John Whyte and Bruce Squires.

April/avril

The Ottawa Dental Society presents "Predictable Restorative Procedures" by Dr. Alvin Fillastre of the L.D. Pankey Institute, Florida, Talisman Motor Hotel, Ottawa, April 18, 1983, from 9am to 5pm. The meeting will be followed by dinner, a general business meeting and elections for ODS members.

The Faculty of Dentistry, Dalhousie University will offer a review course for oral and maxillofacial surgeons from April 18-22, 1983. This is the first time such a comprehensive review course has been offered in Canada. Topics will include Medicine, Physical Diagnosis, TMJ Surgery, Trauma, Anaesthesia, Dento-facial Deformities, Infection and Cleft Palate. Participation exercises in histo-

pathology designed specifically to meet the needs of oral and maxillofacial surgeons will be offered in four evening sessions. It is being co-ordinated by Dr. David S. Precious, Director of the graduate program in Oral Surgery. Brochures, including application forms, can be obtained by writing: Continuing Education in Dentistry, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia B3H 3J5, Canada; (902) 424-2248.

May/mai

The North Central region, in conjunction with the Northeastern region of the American Academy of Dental Group Practice, will hold its 1983 annual meeting in Canada, Westin Hotel, Toronto, Ont., May 13-15, 1983. Contact: American Academy of Dental Group Practice, Ms. Joann Junkins, Executive Secretary, 1709 Elka Lane, Madison, Wisconsin 53704, Phone: (608) 241-2609.

Ontario Dental Association 116th Annual Spring Meeting, The Sheraton Centre, Toronto, Ontario, May 15-18, 1983. Contact: Mrs. W.C. Durham, 234 St. George Street, Toronto, Ontario M5R 2P1.

"Medic Canada '83... Towards the Year 2000", a major international health care/medical devices conference and exhibition, Edmonton, Alberta, May 29-31, 1983. Contact: Robert S. First, Inc., 707 Westchester Avenue, White Plains, N.Y. 10604; (914) 949-4248.

The 1983 Annual Convention of Les Journées Dentaires du Québec, Montréal, Québec, May 28-June 1, 1983. Contact: Dr. Morton Lang, Executive Director, Les Journées Dentaires du Québec, 3565 rue Berri, Suite 200, Montréal, Québec H2L 4G3. Phone: (514) 842-9112.

June/juin

The Canadian Association of Oral and Maxillofacial Surgeons Meeting, Vancouver, British Columbia, June 3-6, 1983. Contact: Dr. Brian M. Abrams, Secretary, Canadian Association of Oral & Maxillofacial Surgeons, 410 - 11012 MacLeod St.S., Calgary, Alta. T2J 6A5.

The 7th Annual Meeting of the Canadian Health Libraries Association, Winnipeg, Manitoba, June 13-15, 1983. Contact: Marilyn Hernandez, Conference Co-ordinator, Department of Health Library, 220-880 Portage Avenue, Winnipeg, Manitoba R3G 0P1; (204) 786-5867.

July/juillet

The 5th Canadian Congress of Dentistry for Children, Westin Hotel, Calgary, Alberta, July 1-3, 1983. Contact: Dr. Jack A.

Derbyshire, 496-115-9th Avenue S.E., Calgary, Alberta T2G 0P5. Phone: (403) 262-7000.

"ADG-Toronto: A New Leaf on Learning", the 1983 Table Clinics program presented by the Academy of General Dentistry, Sheraton Centre, Toronto Ontario, July 16-20, 1983. Contact: Department of Meeting Planning, AGD Suite 1200, 211 E. Chicago Avenue, Chicago, Illinois 60611; (312) 440-4300.

September/septembre

Meeting of the Canadian Academy of Prosthodontics, Vancouver, B.C., September 22-24, 1983. Contact: Dr. B.M. Jackson, 22 Water Street S., Kitchener, Ontario N2G 4K4.

The Royal College of Dentists of Canada Symposium on Periodontal Diseases, generously supported by Colgate-Palmolive Canada, as part of the Canadian Dental Association's National Convention, Vancouver, B.C., Monday, September 26, 1983. The keynote speaker for the Symposium will be Dr. Harald Loe, newly appointed Director of the National Institute of Dental Research, Bethesda, Maryland, and presently Dean of the School of Dental Medicine at The University of Connecticut.

International

January/janvier

Eighth Annual Yankee Dental Congress, Sheraton-Boston Hotel, Boston, January 13-16, 1983. Presented by the Massachusetts Dental Society, the Congress is the sixth largest dental meeting in the U.S. Contact: Massachusetts Dental Society, 36 Washington Street, Wellesley Hills MA 02181.

The 13th Annual Miami Winter Meeting sponsored by the East Coast District Dental Society (FL), Fontainebleau Hilton Miami Beach, Florida, January 20-22 1983. Contact: East Coast District Dental Society, 420 South Dixie Highway, 2-E Coral Gables, Florida 33146. Phone: (305) 667-3647.

Congrès International d'Implantologie Orale, Bordeaux, France, 22 janvier 1983. Pour tout renseignement, s'adresser: Docteur D.M. Courtois, 152, Avenue Charles de Gaulle, 33200 Bordeaux Mérignac.

The "Kieferorthopädische Fortbildungstagung in Kitzbuhel" meeting, Kitzbuhel, Tyrol, Austria, January 30- February 5 1983. Contact: Medizinische Ausstel-

ings- und Werbegesellschaft, Maria Rodler & Co., A-1014 Wien I, Freyung 6, Postfach 155.

February/février

Annual Willard Fleming Memorial Lecture, organized by The American College of Dentists in co-operation with University of the Pacific, The Westin Miyako Hotel, San Francisco, California, February 12, 1983. Contact: Department of Continuing Education, University of the Pacific, 2155 Webster Street, San Francisco, California 94115.

"Dilemmas in Periodontal Therapy" is the theme of the 26th Annual Meeting of the Midwest Society of Periodontology, Hyatt Regency Chicago Hotel, Chicago, Illinois, February 19-20, 1983. For further information contact: Midwest Society of Periodontology, Suite 202, 119 E. Palatine, Illinois 60067; (312) 358-4710.

The 118th Midwinter Meeting of the Chicago Dental Society, Conrad Hilton Hotel, Chicago, Illinois, February 20-23, 1983. Contact: Chicago Dental Society, 10 North Michigan Avenue, Chicago, Illinois 60602, or phone: (312) 726-4076.

5th European Congress for Dentists, Davos, Switzerland, February 20 to March 5, 1983. Contact: H.-P. Schultze, Departmental Chief, Stiftung Zahnärztlicher Fortbildungskongress Davos (ZFD), Rheinallee 55, 5300 Bonn 2, Switzerland.

9th Congress of Dentistry for Children, Wenworth Melbourne Hotel, Australia, February 21-24, 1983. Contact: Dr. Roger K. Hall, Royal Children's Hospital, Parkville, 3052, Victoria, Australia.

Virgin Islands Dental Association Convention, February 27 to March 5, 1983. This year's theme is "Nutrition, Awareness, and Future Focus", and speakers include Drs. Cheraskin, Ken Olsen, Robert Goepp and Harold Slavkin. Limited to 300 registrants. For information contact: Dr. R. Brandon, 85 Lonsdale Drive, London, Ontario N6G 1T4.

March/mars

The International Congress of Oral Implantologists Annual Meeting and Scientific Sessions, Beverly Hilton Hotel, Beverly Hills, CA, March 11-13, 1983. Contact: Mr. Clifford J. Kirschner, Executive Director, The International Congress of Oral Implantologists, P.O. Box 2277, Grand Central Station, New York, N.Y. 10163, (201) 783-6300.

International Meeting for Dental Continuing Education, Kulm-Hotel, St. Moritz, Switzerland, March 14-27, 1983. For de-

tails and program, contact: Downtown Travel Centre, 807 Hornby Street, Vancouver, B.C. V6Z 1T9. Phone: (604) 684-6471.

International Conference of Dental Surgeons, Rawalpindi/Islamabad, Pakistan, March 22-26, 1983. Contact: Chairman, Organizing Committee, Armed Forces Institute of Dentistry, Rawalpindi, Pakistan.

"Pain Control — Something New and Exciting," presented by The Maxillofacial Pain Control Center, Temple University, Philadelphia, PA, Saturday, March 28, 1983. The clinicians include Samuel Seltzer, Robert Pollock, Dorothy Dewart and Louis Dubin. For further information contact: Continuing Education Department, School of Dentistry, Temple University, 3223 N. Broad Street, Philadelphia, PA 19140; (215) 221-2995.

III Pan-American Congress of Periodontology, sponsored by the Asociación Mexicana de Parodoncia, México, Mexico, March 31 to April 3, 1983. Contact: Asociación Mexicana de Parodoncia, Ezequiel Montes 92, Col. Revolución, 06030 México, D.F., Mexico.

April/avril

International Congress of Dental Technology, organized by the Swiss Association of Dental Prosthetics Laboratories, Palais de Beaulieu, Lausanne, Switzerland, April 14-16, 1983. The theme is "Aesthetics in Dentistry." Contact: Secrétariat du Congrès, Office du Tourisme et des Congrès, 60, avenue d'Ouchy, CH-1006 Lausanne, Switzerland.

International Symposium on Biomechanical Aspects of Prosthodontics, presented by Professor George Zarb, Chairman of Graduate and Undergraduate Prosthodontics, Faculty of Dentistry, University of Toronto, and sponsored by The Hebrew University-Hadassah Faculty of Dental Medicine and the Toronto Alumni Chapter of the Alpha Omega Fraternity, Jerusalem, April 20-21, 1983. Contact: Professor J. Pietrokovski, Director of Removable Prosthodontics, Department of Oral Rehabilitation, The Hebrew University-Hadassah Faculty of Dental Medicine, P.O.B. 12000, Jerusalem, Israel; or Dr. Hart Levin, Co-Chairman, 2006 Bathurst Street, Toronto, Canada M5P 3L1, (416) 781-2751.

Alabama Implant Congress VX, Birmingham, Alabama, April 21-24, 1983. Contact: Alabama Implant Study Group, P.O. Box 4682, Birmingham, Alabama 35206.

9th Annual Meeting of The Society for Biomaterials and 15th International Biomaterials Symposium, Birmingham Hil-

ton, Birmingham, Alabama, April 27 to May 1, 1983. Contact: Society for Biomaterials, c/o Dr. Robert G. Craig, Department of Dental Materials, School of Dentistry, University of Michigan, Ann Arbor, Michigan 48109.

First International Symposium on Periodontics and Restorative Dentistry, Sheraton-Boston Hotel, Boston, Massachusetts, April 28-30, 1983. Contact: Kim Vander Steen, Quintessence Publishing Co., Inc., 8 S. Michigan Avenue, Suite 2301, Chicago, Illinois 60603. Phone: (312) 782-3221.

June/juin

The next meeting of the American Dental Society of Europe will be held at the St. Pierre Park Hotel, Guernsey from June 28 to July 1, 1983. All enquiries should be made to: Brian J. Parkins, Hon. Secretary, 57 Portland Place, London W1N 3AH England.

The 1983 Annual and Scientific Meeting of the British Dental Association, Stratford-upon-Avon, Great Britain, June 30 to July 3, 1983. For further information contact: British Dental Association, 64 Wimpole Street, London W1M 8AL.

6th Dentistry International Congress, Rio de Janeiro, Brazil, July 16-21, 1983. For further information contact: A.B.O. — Rio de Janeiro, Ave. 13 de Maio — S/1001/6, CEP. 20.031, Rio de Janeiro, RJ, Brazil.

November/novembre

Fédération Dentaire Internationale, 71st Annual World Dental Congress, Tokyo Japan, November 14-20, 1983. Contact: Japan Dental Association, 1-20, Kudan-Kita 4-chome, Chiyoda-ku, Tokyo 102, Japan.

CDA

Canadian Dental Association, 1983 National Convention, Vancouver, British Columbia, September 25-28, 1983.

Canadian Dental Association, 1984 National Convention, Montreal, Quebec, April 8-12, 1984. Contact: Dr. Morton Lang, O.D.Q., 3565 Berri St., Suite 200, Montreal, Que. H2L 4G3. Phone: (514) 842-9112.

Canadian Dental Association, 1985 National Convention, Ottawa, Ontario, September 29-October 2, 1985.

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BRITISH COLUMBIA — Gold River. High gross, high potential practice for sale. Modern four operator office (three operatories equipped). This practice serves a population of over 4,000. Originally established as a satellite practice. Contact: Dr. S. Miller, 500 Nimpkish Drive, P.O. Box 910, Gold River, B.C. V0P 1G0 or phone: (604) 283-7422.

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ALBERTA — Pincher Creek. Practice for sale. Owner wishes to return to school. Opportunity for one or two dentists. Any combination of practice, building, equipment etc. offered. Very reasonable terms. Phone: (403) 627-3290.

Associateship Available

YUKON TERRITORY — Associate or partner wanted for six-chair dental clinic in newly constructed Medical-Dental building. Interested parties please contact Dr. R. Pearson, Klondyke Dental Clinic, 3089-3rd Avenue, Whitehorse, Yukon Territory. Phone (403) 668-3152.

BRITISH COLUMBIA — We are looking for an associate to join our busy family practice in picturesque Revelstoke, British Columbia. Our established group offers a unique opportunity to practise high quality dentistry in a low stress environment. For information please call collect (604) 837-5149.

BRITISH COLUMBIA — We are looking for an associate to join three young dentists in January, 1983. Our busy family practice, in a new medical/dental building, is located in Central B.C. For further information call Dr. Wendy Bellamy (604) 249-5976 (home) or (604) 992-3771 (office). Please send written inquiries to 665 Front Street, Quesnel, B.C. V2J 2K9.

BRITISH COLUMBIA — Vancouver. Full-time associate required for suburban practice. Experience in prosthetics and surgery necessary. Please reply to CDA Box Number 2140.

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from Vancouver. Call collect (604) 398-7161 (office) or (604) 392-2615 (home).

ALBERTA — Associateship. Busy general practice, two hours north of Edmonton, Alberta. Well established with option to buy in. For information contact: Dr. Eldon Hickerty, Box 1459, Slave Lake, Alberta T0G 2A0, or call (403) 849-2233.

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The closing date for applications is **8 March 1983**.

ADVERTISERS' INDEX

Amadent	22
CDSPI	18, 51
Colgate-Palmolive Inc.	16, 17
Cooper Laboratories Limited	OBC, 43
Défense nationale	7
Den-Mat Corporation	1
Dept. National Defence	7
Endo Canada Inc.	67
Europa Travel Ltd.	55
Henry Schein	24, 25
Hope Industries	15
K-COMP Computer Services	55
Merck-Frosst	8, 9, 33
Proctor & Gamble Company of Canada Ltd.	2
Ultracaine	40A, 41
Union Broach	23
Upjohn Company of Canada	IFC, 43
Whaledent International	IBC

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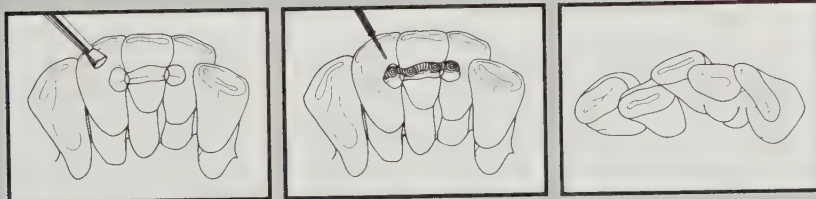
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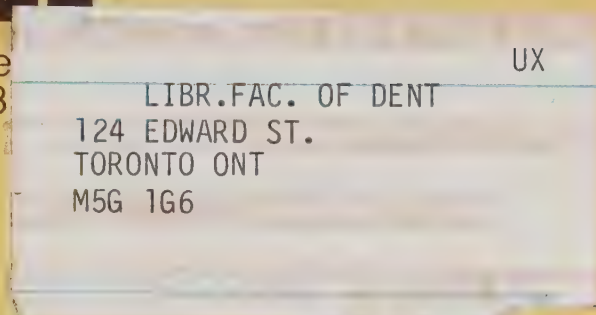
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Scenarios for the Future:
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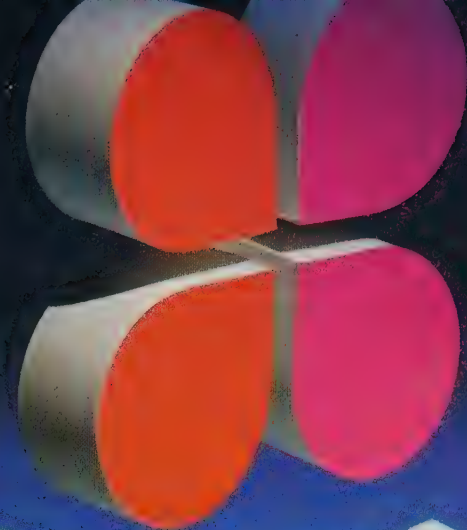
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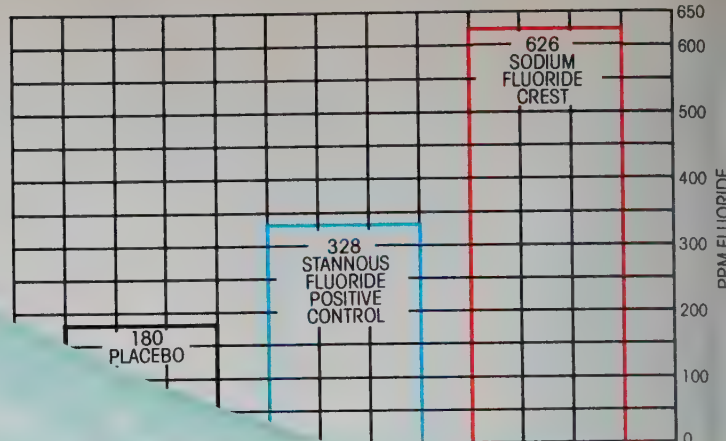
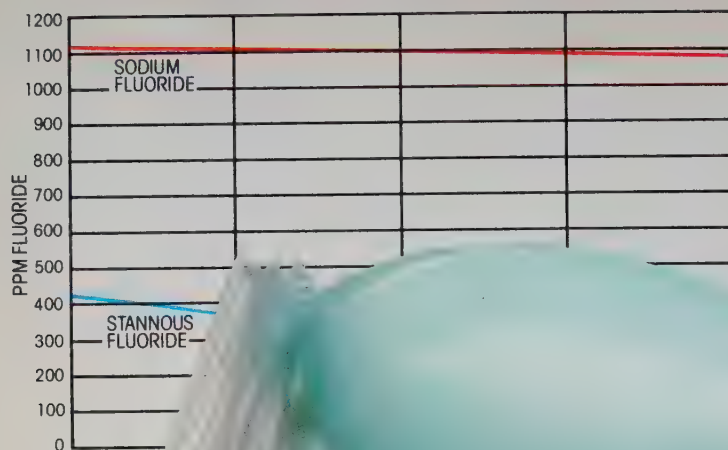
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References

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2. Beiswanger, B.B., Gish, C.W., Mallatt, M.E.: Pharm Therap Dent, 6:9-16, 1981.
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4. Mobley, M.J.: J Dent Res, 60 (12):1943-1948, 1981.
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7. Ostrom, C.A., et al: J Dent Res, 56(3):212-221, 1977.
8. Zahradnik, R.T.: J Dent Res, 59(6):1065-1066, 1980.



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Editorial

77 The Journal editor explains the significance of the Dental Manpower Study in finding answers to the major concern of the dental profession in Canada today.

In the News

84 **Ontario's Royal College considers recommendation to reduce admissions to dental schools**
The Royal College of Dental Surgeons of Ontario is planning a precedent-setting move, suggesting that enrolment be reduced at Ontario's two dental schools.

Article

85 **Manpower Supply Study Scenarios for the Future: Dental Manpower to 2001**
The Journal publishes the complete text of the summary of the Report by R.K. House and Associates, commissioned by the Canadian Dental Association, which examines the future supply of dentists, dental hygienists and dental assistants in Canada, up to the year 2001.

News

99 **National Dental Health Month preparations now completed**
The National Dental Health Month program will have as its theme: "Smile Canada — April is National Dental Health Month."

Briefly

100 Dental news items from across Canada and around the world, are highlighted.

CDA Resource Centre

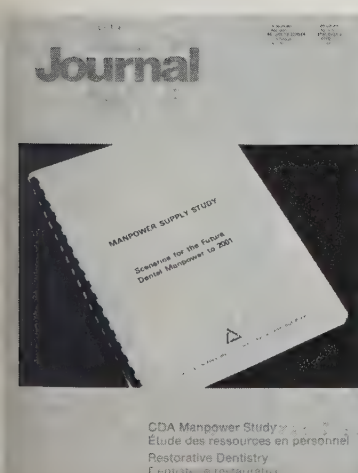
101 The CDA Library/Resource Centre lists articles available on the subject of Oral Cancer.

Publications

124 **Radiation Protection in Pediatric Radiology**
"The directive of this report is not to enter into a debate of the biological significance of low level radiation, but to provide easily digestible information." — Michael J. Pharoah, BSc, DDS

Scientific

127 **Avoiding perforations during post preparation**
— Kenneth Zakariasen et al
131 **Why don't we polish our amalgam restorations?**
— Frank J. Miranda
135 **A direct method for multiple core preparation**
— Nagi M. Halhoul et al



CDA Manpower Study
Restorative Dentistry

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ISSN0709 8936

- 78 Le rédacteur en chef du Journal explique l'importance de l'étude des ressources en personnel dentaire pour trouver des réponses au principal problème de la profession dentaire au Canada présentement.

Article

- 107 **Étude des ressources en personnel — Perspectives d'avenir d'ici à l'an 2001**
Le Journal reproduit au complet le rapport sommaire préparé par la firme R.K. House and Associates et commandé par l'Association dentaire canadienne touchant les effectifs des dentistes, des hygiénistes et des assistantes dentaires, jusqu'à l'an 2001.

Actualités

- 121 **La campagne du Mois national de la santé dentaire**
Cette année, le thème du Mois national de la santé dentaire est: "Sourions à pleines dents — Avril est le mois national de la santé dentaire."

- 101 La Bibliothèque et le Centre de documentation de l'ADC donnent une liste des publications disponibles sur le cancer buccal.

En bref

- 123 Un tour d'horizon des principales informations dentaires au Canada et dans le monde.

- 121 REER
125 Nécrologie
141 Petites annonces
142 Avis
143 Index des annonceurs

Journal

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1983

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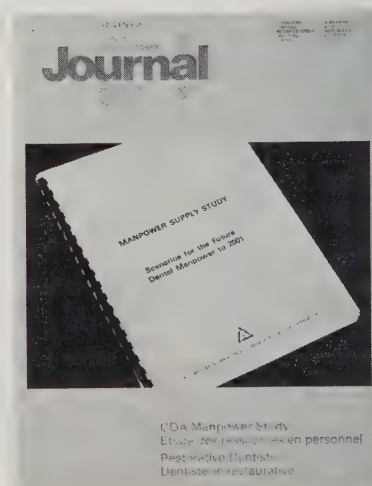
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La direction du Journal ne partage pas nécessairement les opinions qu'expriment ses collaborateurs à moins que l'Association Dentaire Canadienne ne les ait adoptées officiellement.

Étude des
ressources en
personnelDentisterie
restaurative

CDA Manpower Study
Étude des ressources en personnel
Dentisterie restaurative
Dentisterie restaurative

THE MANPOWER DILEMMA: IS THERE ANY CDA ACTION?

Just what is the Canadian Dental Association doing about the major dilemma facing the profession — the manpower issue?

The just-completed report of the Dental Manpower Study by R.K. House and Associates, is a major step toward grappling with this mounting problem.

The editor of your Journal considers this matter to be of such paramount importance that this edition is devoted to the subject. It is our intent that the entire CDA membership and preferably, every dentist in Canada, has an opportunity to study the details of the Report.

The President of the CDA, Dr. William R. Thompson, was invited in December by the Federal Government, to present an overview of the Report to the Federal/Provincial Advisory Committee on Health Manpower.

The explanatory comments made by Dr. Thompson to that Committee, revealed the background, parameters and future significance of the R.K. House Study. We believe this information would also be helpful to readers, and have quoted Dr. Thompson's comments herewith.

"This Study was undertaken because dentistry has undergone some dramatic manpower changes in the past decade, and although a limited number of provincial studies had been undertaken, there had never been a national study. Such national scope is important because the migration of dental personnel within Canada and the effect of immigration from and emigration to the United States and other countries, had never been previously considered.

"The Study incorporates the present and future supply of dentists, dental hygienists and certified dental assistants up to the year 2001. It is important to note that only *certified* dental assistants statistics were utilized in the study as the large number of uncertified dental assistants could not be verified nor their future employment percentages forecast.

"For dentists, dental hygienists and certified dental assistants, the Report incorporates and explains the forecast results. In addition, the Report looks at the 'most likely' future trends and also the impact of some alternative policy changes in the area of supply, namely, in adjusting up or down the number of graduates and the level of immigration. The Study also incorporates the specific influences that retirement ages and the male/female ratio

have upon supply. It must be emphasized that any alternative scenarios which are utilized in the Report, are as extreme examples to demonstrate effects, and are not policy recommendations.

"The basic conclusions of the Study indicate that dentistry faces serious challenges in the supply area in the next 20 years. The supply of dentists for example, will continue to grow at a greater rate than the population, although not quite as rapidly as in the last 10 years. The supply will, however, increase by around 40 per cent in the next 20 years. The growth in the number of dental hygienists and certified dental assistants will be at an even faster rate than dentists.

"It must be emphasized that this Study is a baseline study entirely in the area of supply. It does not include the obvious interaction of demand nor improvements in productivity which may be developed in the next 20 years. There is no question that if more of the over 40 per cent of the population who see their dentist only on an emergency basis could be convinced to seek regular and continuous care, the demand factor would change radically, and consequently, an increased requirement for dental team personnel would ensue.

"The Study is only a basic first step and dentistry is now equipped with a computerized simulation model which will permit us to see the outcomes of various supply policy changes simply and quickly by province and for Canada as a whole.

"The Canadian Dental Association recognizes that many policy decisions must inevitably be initiated at the provincial level in order to incorporate specifics of the region, both with respect to supply and demand. The Canadian Dental Association will therefore offer and encourage the use of the simulation model by corporate and affiliate members. We would envisage that all future studies in this area will utilize this simulation model on which to build — whether provincially or nationally."

Solutions will not come easily.

However, when they do emerge, they will have been determined on a sound basis. This simulation model should serve, in effect, as a cornerstone.

Clarence Metcalfe
Editor

LE PROBLÈME DES EFFECTIFS DENTAIRES: QUE FAIT L'ADC?

Que fait au juste l'Association dentaire canadienne au sujet du sérieux problème qui touche la profession, à savoir le problème des ressources en personnel?

L'Étude sur les ressources en personnel que vient de compléter la firme *R.K. House and Associates* constitue un pas important pour cerner un problème qui ne cesse de s'aggraver.

En tant que rédacteur en chef du Journal, je considère ce sujet d'une importance si capitale que je n'ai pas hésité à y consacrer ce numéro presque entier. En effet, nous voulons que tous les membres de l'ADC et, de préférence, chaque dentiste du Canada, aient une occasion d'étudier le rapport dans tous ses détails.

En décembre, le gouvernement fédéral a invité le président de l'ADC le Dr William R. Thompson, à présenter un résumé du rapport au Comité consultatif fédéral et provincial des ressources en personnel de la santé.

En présentant le rapport, le Dr Thompson a fait état des antécédents, des paramètres et de l'importance future du rapport préparé par la firme *R.K. House*. Nous croyons que ses observations méritent d'être reproduites ici:

"Cette étude a été entreprise parce que les effectifs des services dentaires ont subi, au cours de la dernière décennie, des transformations profondes. Bien qu'il y ait eu quelques études provinciales faites à ce sujet, il n'y a jamais eu d'étude nationale approfondie. La dimension nationale est importante. En effet, jamais auparavant on n'a pris en considération la migration des effectifs à l'intérieur du Canada ainsi que l'immigration aux États-Unis et dans d'autres pays ou l'émigration des dentistes canadiens à l'étranger.

"L'étude comprend les effectifs dentaires — dentistes, hygiénistes dentaires et assistantes dentaires agréées — de la période actuelle jusqu'à l'an 2001. Il est important de noter que l'étude tient compte des assistantes dentaires agréées seulement, étant donné qu'il a été impossible de vérifier le nombre des assistantes dentaires non agréées et d'établir des prévisions touchant les moyennes de celles qui seront embauchées à l'avenir.

"Pour les dentistes, les hygiénistes dentaires et les assistantes dentaires agréées, l'étude indique et explique les résultats des prévisions. En outre, elle examine les tendances futures les plus probables de même que les conséquences qu'entraîneraient d'autres politiques dans le domaine des ressources en personnel, surtout si l'on élevait ou abaissait le nombre des diplômés et les taux d'immigration. L'étude fait également état des effets par-

ticuliers des âges de la retraite et du rapport homme-femme sur les effectifs dentaires. On aura grand soin de se rappeler que les autres scénarios proposés dans le rapport constituent des cas extrêmes pour démontrer certaines conséquences et que ce ne sont nullement des politiques qu'on veuille recommander.

"Les principales conclusions de l'étude indiquent que la médecine dentaire devra, au cours des 20 prochaines années, relever de sérieux défis touchant les ressources en personnel. Ainsi le nombre des dentistes continuera à augmenter plus rapidement que la population, mais à un rythme plus lent que pendant les dix dernières années. Les effectifs augmenteront cependant dans une proportion d'environ 40 pour cent au cours des 20 prochaines années. Quant aux hygiénistes dentaires et aux assistantes dentaires agréées, leur nombre croîtra encore plus rapidement que celui des dentistes.

"Il convient de souligner que cette étude est fondamentale pour les ressources en personnel uniquement. Elle ne tient pas compte du jeu évident de la demande ni des améliorations qui pourront être apportées à la productivité au cours des 20 prochaines années. Sans doute, si un plus grand nombre des personnes qui visitent le dentiste seulement en cas d'urgence — plus de 40 pour cent de la population — étaient amenées à demander des soins sur une base continue et régulière, la demande changerait de façon radicale, et, par conséquent, on aurait besoin d'un plus grand nombre de professionnels dentaires.

"En somme, cette étude est un premier pas qu'il fallait faire. La dentisterie dispose maintenant d'un modèle informatique de simulation qui lui permettra de mesurer simplement et rapidement les effets des diverses orientations politiques en regard de chaque province et du Canada entier.

"L'Association dentaire canadienne reconnaît que plusieurs décisions doivent se prendre inévitablement au niveau des provinces afin de tenir compte des besoins particuliers de chaque région touchant l'offre et la demande. C'est pourquoi l'ADC incitera les associations affiliées à se servir du modèle de simulation. Nous prévoyons qu toutes les études futures dans ce domaine l'utiliseront comme point de départ pour établir des politiques, que ce soit au niveau provincial ou au niveau national."

Les solutions ne se trouveront pas facilement. Cependant, lorsque ces solutions seront trouvées, elles seront fondées sur une base solide. Le modèle de simulation devrait en effet servir de pierre angulaire.

Le rédacteur en chef, Clarence Metcalf

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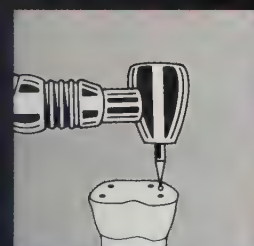
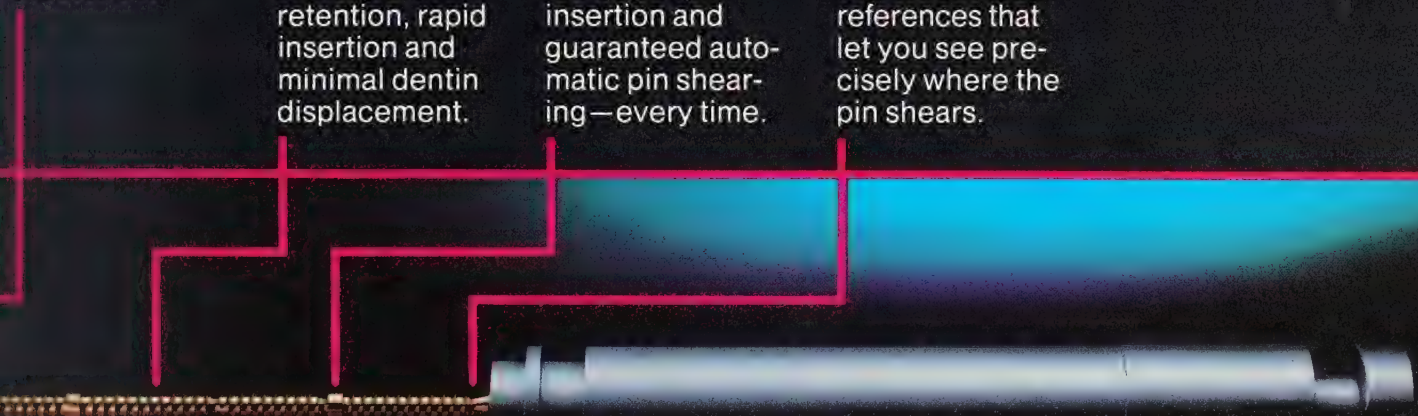
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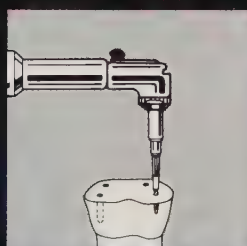
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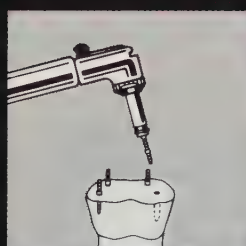
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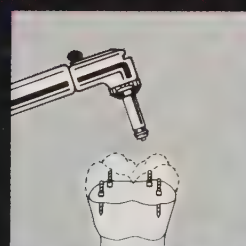
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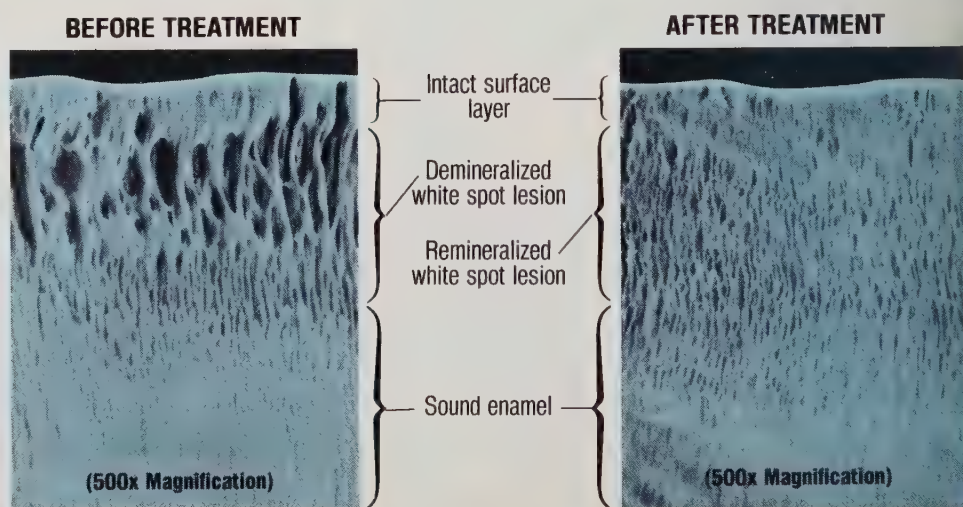
REMINERALIZATION.

Remineralization is the reversal of the demineralization process before a white spot lesion becomes a cavity (1). Studies have indicated that the presence of fluorides in demineralized enamel improves the natural remineralization process (2-5).

COLGATE'S TWO FLUORIDE STUDY.

In vitro studies (6) on demineralized enamel show that treatment with Colgate's combination of sodium monofluorophosphate and sodium

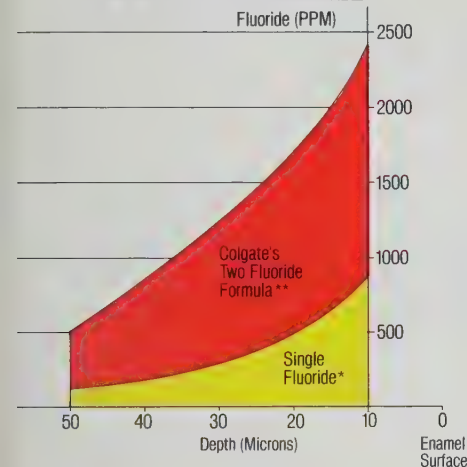
fluoride** actively promotes more complete remineralization of white spot lesions than a single fluoride formulation*. This improved remineralization of white spot lesions, we believe, ultimately leads to a greater reduction in cavities.



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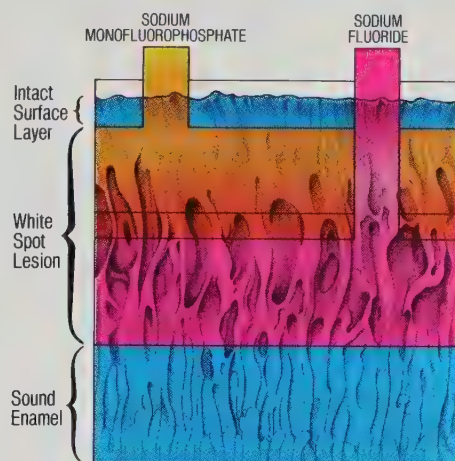
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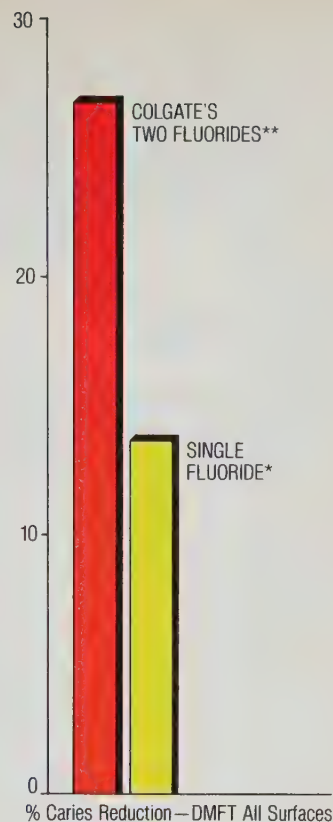
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REMINERALIZATION ACTION OF COLGATE'S TWO FLUORIDES



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REFERENCE

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* Sodium monofluorophosphate (0.76%)

** Sodium monofluorophosphate (0.76%) and sodium fluoride (0.10%)

† "Colgate Toothpaste contains sodium monofluorophosphate and sodium fluoride which are, in our opinion, effective decay preventive agents and are of significant value when used in a conscientiously applied program of oral hygiene and regular professional care."

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Ontario's Royal College considers recommendation to reduce admissions to dental schools

The Royal College of Dental Surgeons of Ontario, in a precedent-setting move, is planning to recommend to the Ontario Ministry of Colleges and Universities, the body that allocates funds to the schools, to consider reduction of enrolments at Ontario's two dental schools.

This is the first time a provincial dental licensing body has ever made such a recommendation.

One precedent was already set last summer when the same provincial government agreed to reduce the number of admissions to Ontario medical schools without reducing the funding.

Dr. Ken Pownall, Registrar of RCDS, said the College wants the number of first-year admissions to the University of Toronto's dental school reduced from 125 to 96 and from 56 to 40 students at the University of Western Ontario's dental faculty in London, Ontario.

A growing surplus of dentists, a diminishing population and a decreasing patient load, caused partly by community water fluoridation, are cited as the major reasons behind the College's recommendation. In Ontario alone, Dr. Pownall said, there is now an excess of 300 dentists, with about 125 of that surplus in the Toronto area.

The recommendation, yet to be formally drafted for presentation to the provincial government, is being considered by the deans of the University of Toronto and Western Ontario faculties of dentistry.

Deans agree in principle

Although the deans agree in principle with the recommendation, they say the solution is neither easy nor simple.

A reduction in dental school enrolments could alter the provincial government's funding mechanism formula, which depends upon "basic in-

come units" (BIUs) said Dr. Pownall. Dental students in the province are worth five BIUs per year of schooling, with one BIU pegged at \$3,669 for the academic year 1982-83. This gives the dental schools \$18,345 for each student enrolled.

Dr. A.R. Ten Cate, U of T's dental school dean, has written a letter to that University's administration explaining the recommendation. He wrote: "For the university, a reduction in enrolment of 24 in this faculty has serious financial consequences. BIU income in the first year would decline by about \$500,000, so that at the end of the four-year cycle, university income would be down by \$2,000,000. To this figure must be added an eventual reduction in clinic income of about \$250,000 — \$300,000, as the amount of service is reduced."

Dr. Ralph Brooke, dean of the University of Western Ontario's dental faculty, concurs with Dr. Ten Cate that before such a move is contemplated, there has to be a change in the provincial funding system. For financially hard-pressed universities, enrolments cannot be unilaterally reduced because of the financial penalties that would ensue.

He also pointed out that "doing something about it (the over-supply of dentists) in Ontario doesn't stop dentists from other provinces from moving in.

"There's got to be a national adjustment, with every province realizing the problem."

Even now, he said, most of the 40 graduates from McGill University's dental school come to Ontario every year for jobs.

Manpower Study confirms problem

The just-published R.K. House "Manpower Supply Study — Scenarios for the Future: Dental Manpower to 2001," commissioned by the Cana-

dian Dental Association, bears out the concern expressed by Dr. Pownall and the two deans. That Study Report, in summary form, has been published elsewhere in this edition of the Journal. It states that the major problem facing dentistry today is the over-supply of dentists.

Both Dr. Ten Cate and Dr. Brooke don't want the provincial funding cut to the extent where teachers and equipment would be reduced. Dr. Brooke said if his own school's first-year admissions are cut from 56 to 40 students, little money would be saved because the same number of teachers would be required. Marginal cuts could be made in support staff and in the one-to-one teaching program.

Both deans said their universities could not possibly take a 25 per cent cut in government funding.

Although Dr. Ten Cate believes an enrolment reduction "is not only appropriate but prudent," he said the solution is not simple.

He suggested that the only way enrolments in the dental schools could be reduced with little financial effect is if the BIU funding system recognizes the true costs of dental education.

Dr. Brooke, on the other hand, believes a solution might be found in the admissions process. He said the dental schools might wish to consider taking in more female students, who tend to practise less full-time dentistry and who often leave the work force temporarily to raise families. He also said a gradual trimming of admissions over a number of years, might work.

Dr. Pownall hopes to maintain the present level of funding from the provincial government with reduced admissions next year. A good arrangement, he said, might be to persuade the government to provide this year's equivalent funding, rather than reduce the amount on a prorated basis.

Manpower Supply Study Scenarios for the Future: Dental Manpower to 2001

R. K. House, PhD
Gail C. Johnson, PhD
Frank A. Edwards, MA

INTRODUCTION

Dentistry has undergone some dramatic manpower changes in the past decade. This situation has prompted the Canadian Dental Association to sponsor a study which examines what will be the future supply of dentists, dental hygienists and certified dental assistants in Canada up to the year 2001. This report explains these forecast results. In particular, we look at the "most likely" future trends, and the impact of some alternative policy changes, namely in the area of adjusting the number of graduates and the level of immigration. The specific influence that migration patterns, and the age-sex structure have upon the supply is also discussed.

The completion of this project was made possible by the cooperation of the licensing organizations, professional associations and educational institutions active in dentistry. They provided in as great a detail as possible information on the supply of the dental professions and the output of the educational institutions. Additional survey material gathered by R.K. House and Associates for various provinces along with already published studies have also been useful in highlighting current trends.

The basic conclusions of the study indicate that dentistry faces further challenges in the next 20 years. The supply of dentists, for example, will continue to grow at a greater rate than the population, albeit not as quickly as in the last 10 years. The growth in the number of dental hygienists and certified dental assistants will be so rapid that it will necessitate a very substantial change in the configuration of the dental team if all available licensed auxiliaries are to be employed.

There are policy changes that can address these prob-

lems. The purpose of this report is not to dictate what these policy changes should be. Naturally, implementation of policy must deal with a wider range of political, social and epidemiological considerations. We do however show how results of some policies can have different impacts in each part of Canada and how policy alternatives may be limited by the specific nature of migration patterns or the age structure. In this regard, the computer simulation model which has been developed for this study permits the policy maker to examine closely the impacts of various changes in each area of the country.

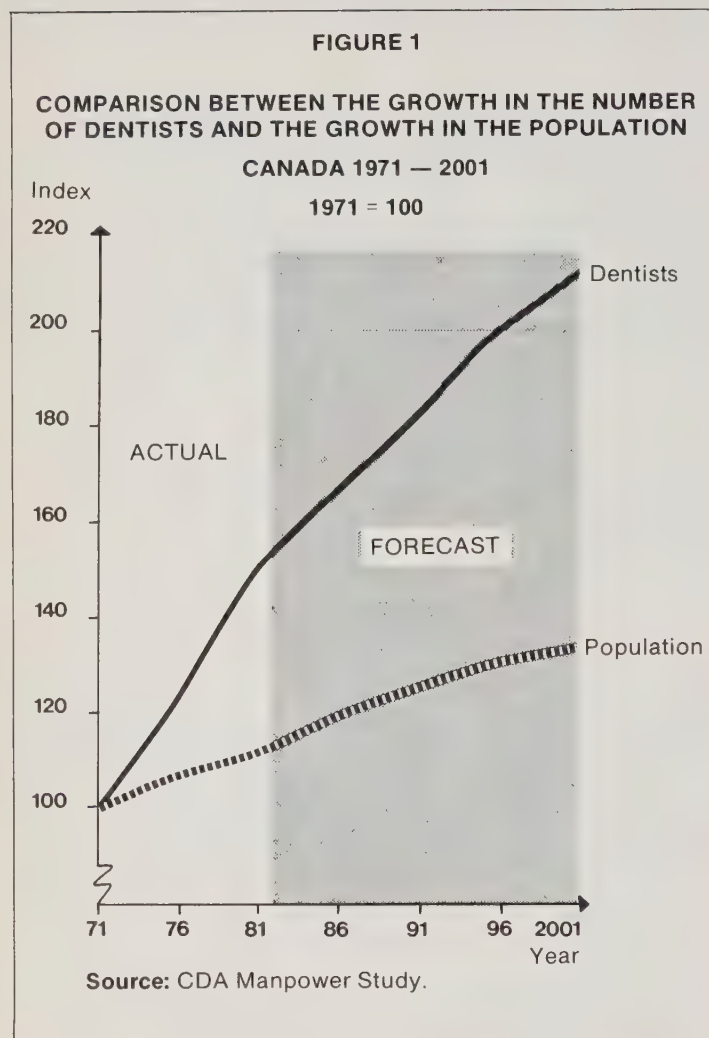
In Brief, What is a Baseline?

We begin to unlock the future by developing baseline forecasts for our three major groups in dentistry. The baseline forecasts assume that the "status quo" will remain intact over the projection period (end of 1981 to the end of 2001). By "status quo" we assume that the *behaviour* of individuals in the professions will not change. The same decision rules that have governed movement to and from part-time employment, retirement, and relocation away from the "home" province are assumed to operate in the long-run. The outputs from the education system have been established by the projections given by the institutions themselves. The level of immigration is low in light of recent tightening of immigration policy in Canada. In that these assumptions have followed upon extensive examination of primary data, we have confidence in the results.¹

¹ These assumptions will be discussed in later sections of the report. A separate volume entitled "Canadian Dental Association: Manpower Supply Forecast 1981-2001" Technical Report" however fully displays the historical data and consequent assumptions.

The Overview

An overview of the results of the baseline forecasts for dentists is shown in **Figure 1**. This figure compares the



growth in the supply of dentists from 1971 to 2001 to the growth in the population over the same period. The number of dentists in each year is adjusted by the number of new entrants (graduates and in-migrants) minus deaths, retirements and the number of out-migrants. From 1971 to 1981, the number of dentists has grown at a remarkable rate, specifically by 52 per cent. This increase has been largely the result of the increase in the number of new graduates that have been flowing into the supply after the expansion of the education system in the sixties and early seventies. Regrettably, the population in Canada has limped badly behind with a growth of only 12 per cent in the same period. This crude comparison between the growth in the supply of dentists and population simply tells us why dentistry is experiencing its current difficulties.

The good news behind this bleak message is that after 1981 the rate of growth in the dentist supply will slacken considerably. From 1981 to 2001, the expected increase is somewhat less than 40 per cent. This is below the level of growth witnessed in the last 10 years. Using a medium-

level population projection², the population of Canada is expected to increase by 19 per cent over the projection period. This still means that the growth in the dentist supply will be more rapid; but the difference between the growth rates in the supply of dentists and the population will not be as great.

In essence, as long as the number of graduates remains relatively constant we can anticipate that the "shock" given to the supply by the increased enrolments of over a decade ago will slowly subside. The sharp decline in the population/dentist ratio witnessed from 1971 to 1981 will slow down. During the last 10 years, the ratio plunged from 2,195 persons per dentist to 2,155, a decline of 26.1 per cent. Over the next 20 years, it will fall to 1,828 or by a further 15.2 per cent.

The Provinces

The broadbrush picture presented by **Figure 1** disguises the developments in the individual provinces. **Tables 1** and **2** show the absolute numbers in the profession and their rate of growth for 1971 to 2001. Nova Scotia, Saskatchewan, Alberta and B.C. are the provinces which will have rates of growth above the Canadian average.³

The In-Flows

As already seen the supply of dentists is fuelled by new graduates and the net number of in-migrants into the provinces. The importance of each of these flows in each province varies. The accompanying map (**figure 2**) indicates the significance of each source of supply to each province or region.

Dalhousie takes on particular significance for all the Atlantic provinces. Without Dalhousie graduates, these provinces generally experience a low inflow of dentists from other areas. Indeed, the number of Atlantic province dentists going to other provinces have, in some years exceeded the flow of in-migrants to produce a net outflow. New Brunswick, for example, reports that in the last 10 years the most significant source of supply of new dentists came from Dalhousie and secondarily the University of Montreal. Unlike New Brunswick, Newfoundland and Prince Edward Island do not have significant French populations which would encourage substantial migration from Quebec's French-speaking universities.

Given this situation, the recent expansion of Dalhousie is merited if a larger number of these new graduates will go to the other Atlantic provinces rather than settle in Nova Scotia. This would mean that the projected decline in the number of dentists in Newfoundland and Prince Edward

2 Statistics Canada, *Population Projections for Canada and the Provinces, 1976-2001*, cat. #91-250, Projection #3.

3 The forecast predicts a decline in the number of dentists in Newfoundland and Prince Edward Island. Both provinces would need extra in-migrants a year to maintain a constant stock. Due to the low level of immigration that is anticipated, no immigrants however are assumed to come to these provinces.

FIGURE 2
SOURCES OF SUPPLY: FLOWS OF DENTISTS IN CANADA*

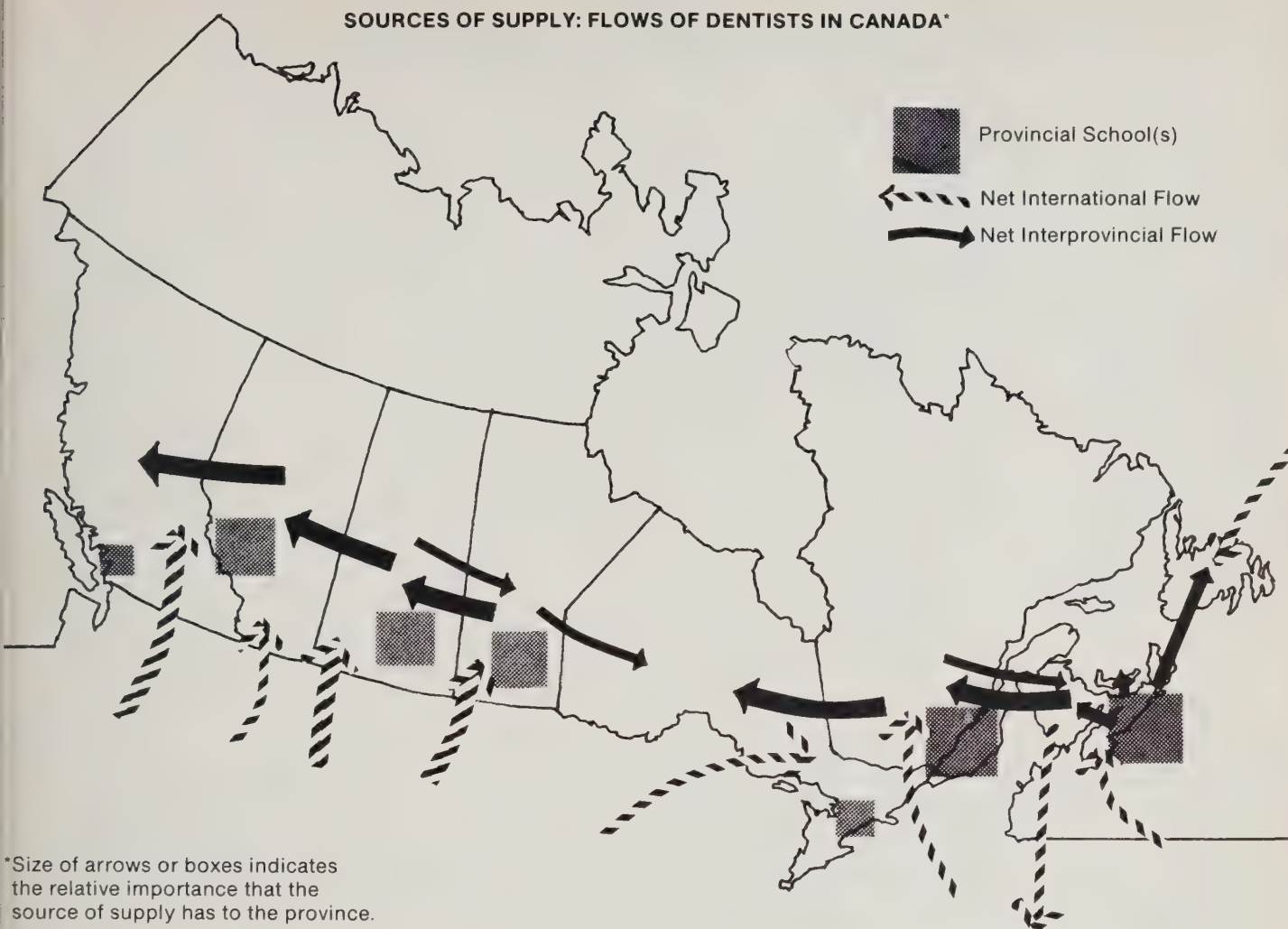


Table 1
Number of Active Dentists in Canada
1971 to 2001

Province	Year						
	1971	1976	1981	1986	1991	1996	2001
Newfoundland ¹	60	103	125	115	110	105	99
Prince Edward Island ¹	27	42	43	39	35	33	34
Nova Scotia	208	239	306	369	427	461	479
New Brunswick	130	166	191	210	225	241	252
Quebec	1690	2013	2572	2715	2900	3116	3330
Ontario	3144	3756	4469	4940	5494	6012	6440
Manitoba	310	373	428	474	509	543	571
Saskatchewan	221	277	333	397	428	453	474
Alberta	616	814	1058	1270	1449	1625	1783
British Columbia	983	1393	1670	1760	1918	2084	2226
Canada	7389	9177	11195	12289	13495	14673	15688

¹ See footnote 3

Source: CDA Manpower Study

Table 2
Growth Index of the Number of Active Dentists in Canada 1971 — 2001

1971 = 100

Province	Year						
	1971	1976	1981	1986	1991	1996	2001
Newfoundland	100	172	208	192	183	175	165
Prince Edward Island	100	156	159	144	129	122	126
Nova Scotia	100	115	147	177	205	222	230
New Brunswick	100	128	147	162	173	185	194
Quebec	100	119	152	161	172	184	197
Ontario	100	119	142	157	175	191	205
Manitoba	100	121	138	152	164	175	184
Saskatchewan	100	125	151	180	194	205	214
Alberta	100	132	172	206	235	264	289
British Columbia	100	142	170	179	195	212	226
Canada	100	124	152	166	183	199	212

Source: CDA Manpower Study

Island, could be turned around to the benefit of these provinces and Nova Scotia's above-average growth rate would be curtailed to more acceptable levels. The proper distribution of graduates among the Atlantic provinces may necessitate implementation of a specific regional policy on the part of Dalhousie.

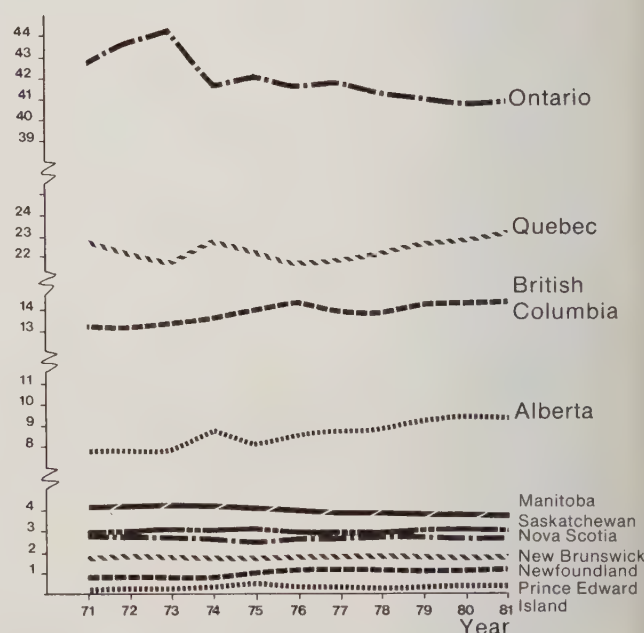
Among the other provinces, the actual retention rate of graduates is very dependent upon whether the province has been a net recipient of dentists from outside of the province or a net "loser." More of the graduating class remain in the province if it is an attractive province to other dentists generally.

THE MOBILITY OF DENTISTS

Our study of dentists' movements over the last 10 years revealed that there is a relationship between the net in-flow of dentists to a province and the *relative* population-dentist ratio of that province to the others. This applied to all provinces with the exception of Quebec. Simply put, this means that if the population/dentist ratio increases in a province at a *greater rate* than in the other provinces there will be an increased flow into that province of migrants and a corresponding decline in the "losing" provinces.

The calculation of flows on the basis of relative population/dentist ratios in theory acts much like water trying to find its own level. It becomes slightly more complex in practice because dentists must deal not so much with what actually exists but with what they *perceive* the situation to be in one province vis a vis another. For this reason behaviour can lag behind reality.

FIGURE 3
PERCENTAGE OF ACTIVE LICENSED DENTISTS BY PROVINCE OF RESIDENCE
1971 — 1981



Source: CDA Manpower Study.

Table 3
Population-Dentist Ratios in Canada
1971 — 2001

Province	Year						
	1971	1976	1981	1986	1991	1996	2001
Newfoundland	8702	5415	4686	5119	5575	5944	6369
Prince Edward Island	4133	2814	2891	3356	3886	4255	4232
Nova Scotia	3793	3467	2801	2405	2139	2024	1978
New Brunswick	4882	4080	3720	3550	3438	3303	3227
Quebec	3567	3097	2465	2433	2333	2201	2068
Ontario	2450	2200	1930	1896	1803	1725	1670
Manitoba	3188	2731	2409	2288	2220	2089	2015
Saskatchewan	4191	3326	2941	2515	2395	2308	2234
Alberta	2643	2258	2042	1845	1763	1684	1623
British Columbia	2222	1771	1623	1631	1602	1560	1530
Canada	2915	2500	2155	2086	1992	1901	1828

Source: CDA Manpower Study

Figure 3 shows the percentage of dentists in each province over the last decade. Percentages have changed as dentists have followed the movement of the population as a whole. Specifically, Ontario's percentage of the supply has dropped from over 42.5 per cent in 1971 to 40 per cent in 1981 as numbers of the profession have followed the long-run Canadian exodus to Alberta and British Columbia.

The percentage of dentists in Manitoba and Saskatchewan, much smaller provinces than their Western partners, declined slightly from 1971 to 1981 as their populations also tended to shift West. Prince Edward Island's proportion of dentists followed the erratic fluctuations shared by changes in the province's percentage of the population. Nova Scotia's proportion of dentists declined slightly and New Brunswick's has remained relatively constant, also in accord with their respective population trends. The percentage of dentists in Newfoundland increased over the 1971 to 1981 period as the province experienced a slightly higher growth in the population in the middle part of the seventies.

The exception to the rule has been Quebec. The percentage of the population residing in Quebec has declined steadily over the last 10 years. Yet, Quebec's portion of the dentists had returned, by 1981, to 1971 levels. In the in-between years from 1971 to 1981 the fluctuation in Quebec's percentage of dentists caused some unusual and temporary changes in the percentage of dentists in other provinces, such as the peaks shown in Figure 3 for Ontario and British Columbia. It is perhaps too easy to theorize why the profession in Quebec has undergone such radical

changes in the seventies. But the return to old levels by 1981, despite the continued out-migration of the population, suggests that, for the dental profession at least, there are stabilizing influences at work.

Ultimately, it would appear that Quebec, being the dominant French-speaking province of Canada, should be set apart from the other provinces. For Quebec we have assumed therefore that the province will continue to lose some dentists to other parts of Canada, but that this out-flow would decline in size throughout the projection period. Immigrants and graduates from the province's dentistry schools will far exceed any loss of professionals to other provinces. For the rest of Canada, we have been able to assume that migration flows operate on the basis of the relative population-dentist ratios.

The Statistics Canada population projection that was used to forecast dentists assumes that the population will gravitate to the West away from the East but at a slower rate than in the past. Tables 3 and 4 show the resulting changes in the population/dentist ratios and the percentage distribution of the supply of dentists among the provinces.

IMPACT OF CHANGING POLICY: CHANGING THE NUMBER OF GRADUATES

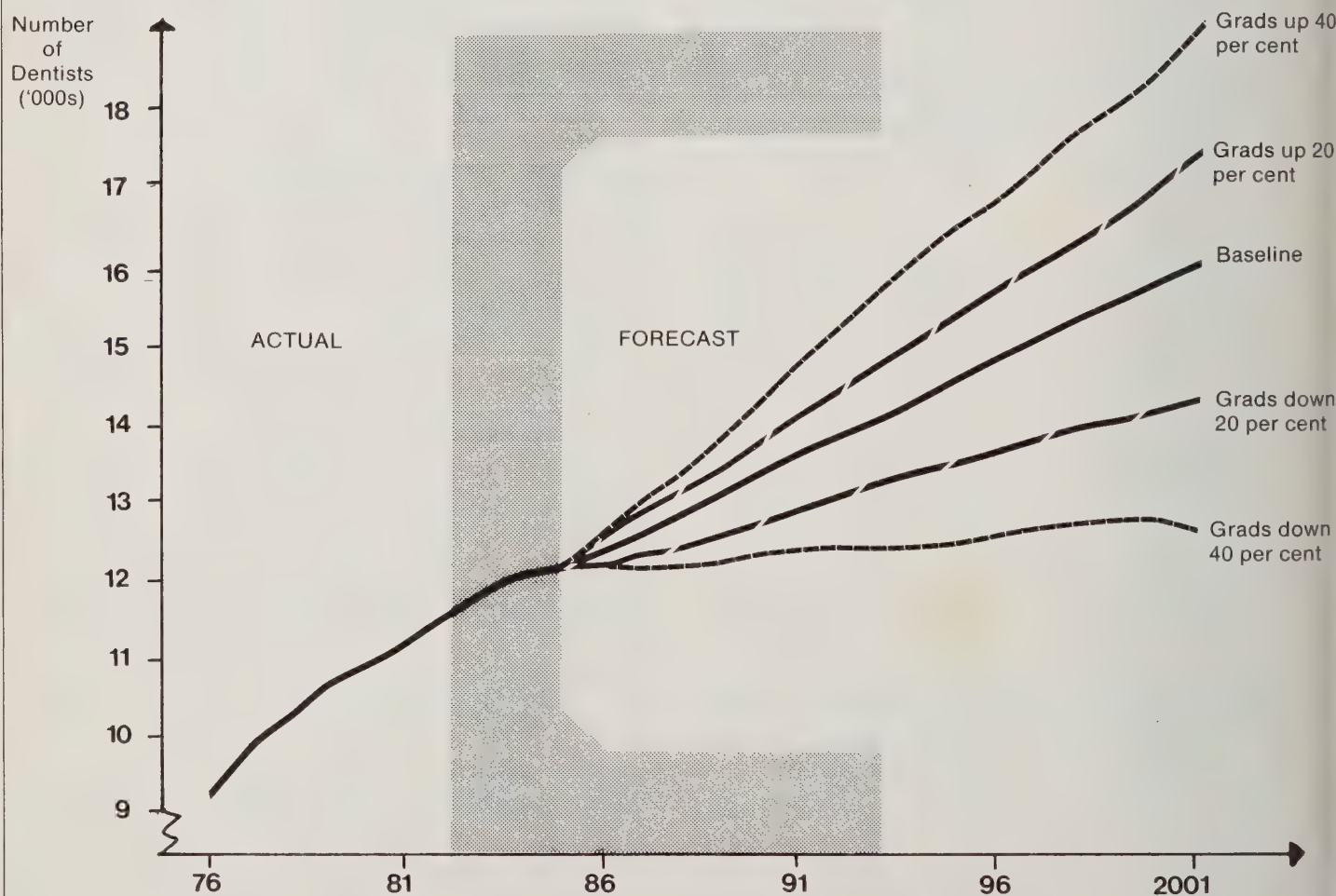
The varying importance given to the make-up of supply in any individual province by graduates and other in-flows has policy implications. A policy that may work very effectively in one province or region may not be as effective in altering supply in another province. These considerations become very apparent when we look at the impact of changing the number of graduates.

Table 4
Percent Distribution of Dentists in Canada

Province	Year			
	1971	1981	1991	2001
Newfoundland	0.8	1.1	0.8	0.6
Prince Edward Island	0.4	0.4	0.3	0.2
Nova Scotia	2.8	2.7	3.2	3.1
New Brunswick	1.8	1.7	1.7	1.6
Quebec	22.9	22.9	21.8	21.2
Ontario	42.5	40.5	41.5	41.1
Manitoba	4.2	3.8	3.8	3.6
Saskatchewan	3.0	3.0	3.2	3.0
Alberta	8.3	9.4	11.0	11.4
British Columbia	13.3	14.9	14.5	14.2

Source: CDA Manpower Study

FIGURE 4
IMPACT OF CHANGING THE NUMBER OF GRADUATES IN
CANADIAN SCHOOLS FROM 1986 UPON THE SUPPLY OF DENTISTS



Source: CDA Manpower Study.

Table 5
Impact of Changing the Number of Graduates on the Supply of Dentists by
2001 from 1986

	Atlantic Provinces	Quebec	Ontario	Manitoba	Sask.	Alberta	British Columbia	Canada
% Impact on Supply								
All Schools Changed 40 per cent from 1986	±19.8%	±25.0%	±18.7%	±19.7%	±20.0%	±19.6%	±16.0%	±20.0%
All Schools Changed 20 per cent from 1986	± 9.9%	±12.5%	± 9.3%	±9.8%	± 9.9%	± 9.8%	± 8.0%	± 9.9%
Ontario Graduates Increased by 50 per cent from 1986	**	*	+18.9%	+ 9.3%	+ 7.6%	+ 8.2%	+ 1.0%	+ 9.3%
Ontario Graduates Decreased by 50 per cent from 1986	**	*	-17.8%	- 8.9%	- 7.0%	- 9.1%	- 3.5%	- 9.3%

For lack of better information, the forecast in Quebec has assumed an absolute changing number of net out-migrants a year from this province. With a change in the number of graduates this flow could change so that the impact on Quebec of a change in graduates could be different.

* Impact on the Atlantic Provinces is insignificant.

Source: CDA Manpower Study.

Figure 4 shows graphically the overall impact of a 40 per cent and 20 per cent increase or reduction in the number of graduates in **all** of the Canadian schools of dentistry from 1986. A 40 per cent change would increase or reduce the supply to dentists by 20 per cent in 2001. A 20 per cent change would alter the supply by almost 10 per cent.

Table 5 indicates how each province will be affected by these changes. The Atlantic provinces are grouped together because Dalhousie is the one school that serves them all. Clearly, we see that a 40 per cent or 20 per cent change in graduates elicits quite different responses, province by province. In those provinces where the number of graduates from the provincial school assumes the most importance relative to the other sources of supply, the impact is greater. Thus, we find that Quebec, Saskatchewan and the Atlantic region are most affected; Ontario and British Columbia the least.

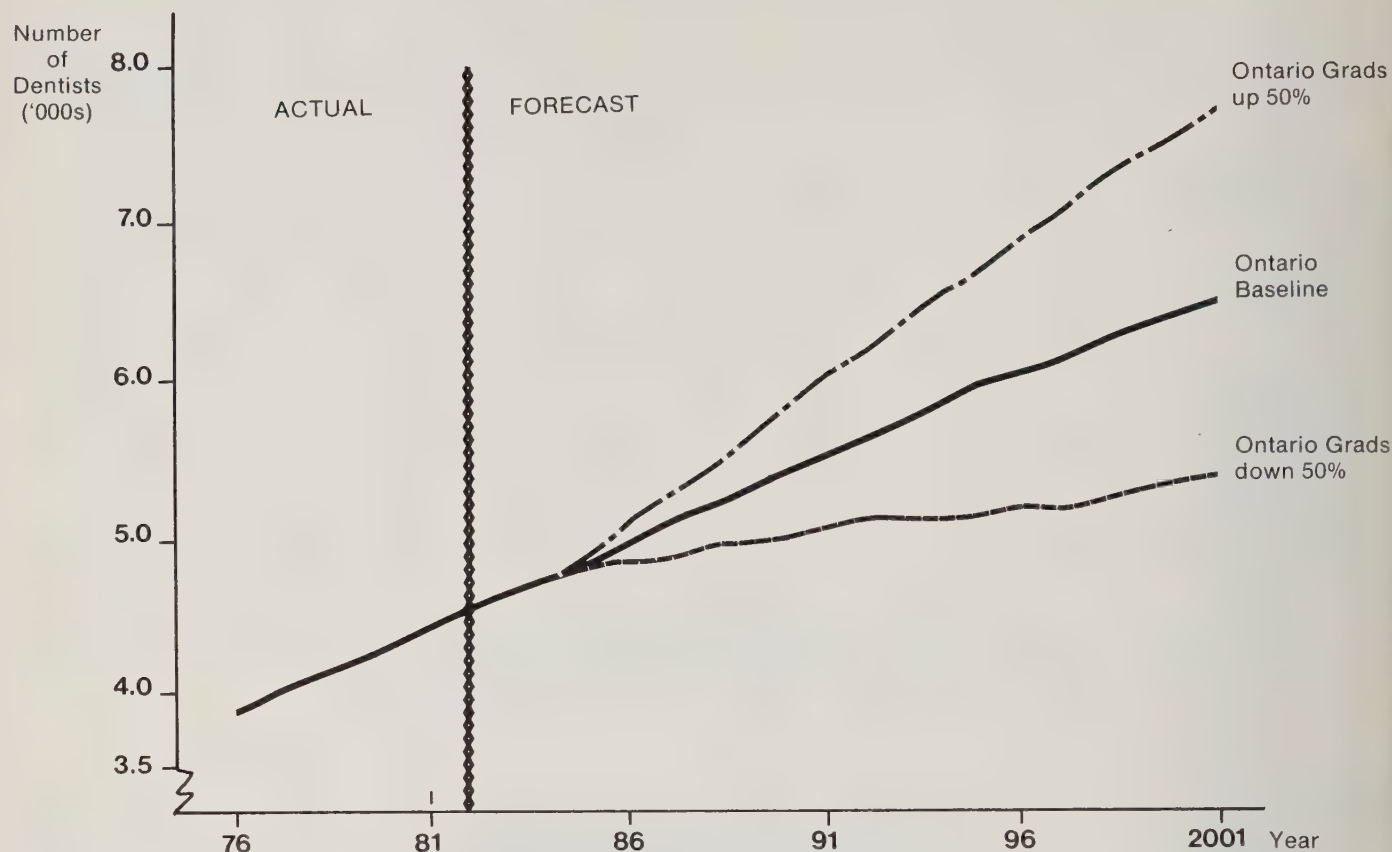
The percentages shown in **Table 5** are also “moderated” by changes in migration flows. These occur as a result of a change in the number of graduates. In brief, when an increase in the number of graduates takes place more dentists will be inclined to pack their suitcases and follow the drift of the population. Conversely, a reduction in the number of graduates improves the situation in the home province for individual dentists; fewer are willing to begin the trek outward. This moderating influence is most significant for British Columbia. If the number of migrants were **not** changed, for example, a 40 per cent increase or

decrease of graduates at UBC would simply change the supply in British Columbia by 11 per cent in 2001. Because more migrants will move to British Columbia as all schools increase their output by 40 per cent, the impact increases from 11 per cent to 16 per cent. Similarly, a 40 per cent decrease reduces the flow of dentists to the province.

An across-the-board change in all schools influences the supply the same whether the change in graduates is up or down. If the change occurs in only one province, however, the impact is different for both an increase or a decrease. **Figure 5** shows what would happen in Ontario if only Ontario changed their number of graduates by 50 per cent from 1986. **Table 5** again shows the impact by province. Ontario has been chosen as an example because it is the one province that receives and sends migrants over a greater part of Canada and its annual output of graduates is large enough to demonstrate the variety of impacts for Canada as a whole. For each province, there will be some “out-of-province” effects if graduates are changed in that province alone.

A 50 per cent change in Ontario’s graduates alters the overall Canadian supply of dentists by 9.3 per cent, slightly less than the impact of changing graduates in every school by 20 per cent. Without any change in the number of dentists moving into or out of Ontario, Ontario’s supply of dentists would change by 23 per cent in 2001. This percentage once again is significantly moderated by changes of migration patterns. With an increase, fewer dentists are

FIGURE 5
IMPACT OF A CHANGE IN THE NUMBER OF ONTARIO GRADUATES
IN 1986 UPON THE SUPPLY OF DENTISTS IN ONTARIO



Source: CDA Manpower Study.

willing to risk moving to Ontario and more will leave. The 50 per cent increase therefore causes the supply to grow not by 23 per cent but by only 18.9 per cent. With a decrease, the province becomes more attractive to relocating dentists and fewer will feel the need to leave. Thus, the supply decreases by only 17.8 per cent and not by 23 per cent.

Atlantic Canada is not significantly affected by a change in Ontario (less than 1 per cent) because the specific interchange between the Eastern provinces and Ontario is not large relative to other sources of supply. In the last 10 years, Quebec dentists have contributed significantly to Ontario's supply of dentists. How this number of dentists could change with an alteration in Ontario's graduates is difficult to determine. The other provinces however are recipients of more Ontario dentists when graduates are increased and "net" losers of their own dentists as Ontario graduates become fewer.

Dentists from Around the World

We anticipate that the number of dentists immigrating to Canada will decline. In 1982, the government tightened immigration policy. Since 1979, the number of American dentists from approved schools qualifying in Canada has also declined. Since that time, these dentists have been

required to pass not only the NDEB written examination but also a clinical exam. We have therefore assumed that immigration will be only 50 dentists a year. (The average from 1971 to 1979 was 90.) Emigration also is assumed to be 50 dentists a year.

Figure 6 demonstrates what would be the impact if immigration were increased to 100 or 200 immigrants a year, reduced to 0, or increased at five-year intervals to 150 a year before dropping to 100 in 1996. An elimination of immigration or an increase to 100 will change the supply of dentists in 2001 by 5.8 per cent. An increase to 200 has a much larger cumulative effect of 17.4 per cent at the end of 20 years. As immigration has never reached 200, a fluctuating immigration level is a more likely alternative scenario. With a gradual increase of immigrants to 150 the supply in 1996 would be increased 10.2 per cent above the baseline. With the drop to 100 after 1996 the impact in 2001 would be only 6.0 per cent. The results tell us that if policy had not been changed to reduce immigration almost by half, our supply of dentists would have been 5 per cent to 6 per cent higher in 20 years than it is now projected to be.

While the net impact of international flows on our baseline for Canada as a whole is zero, the picture changes for each province. Emigrants leave the provinces in the same

FIGURE 6
IMPACT OF A CHANGE IN IMMIGRATION ON THE SUPPLY OF DENTISTS

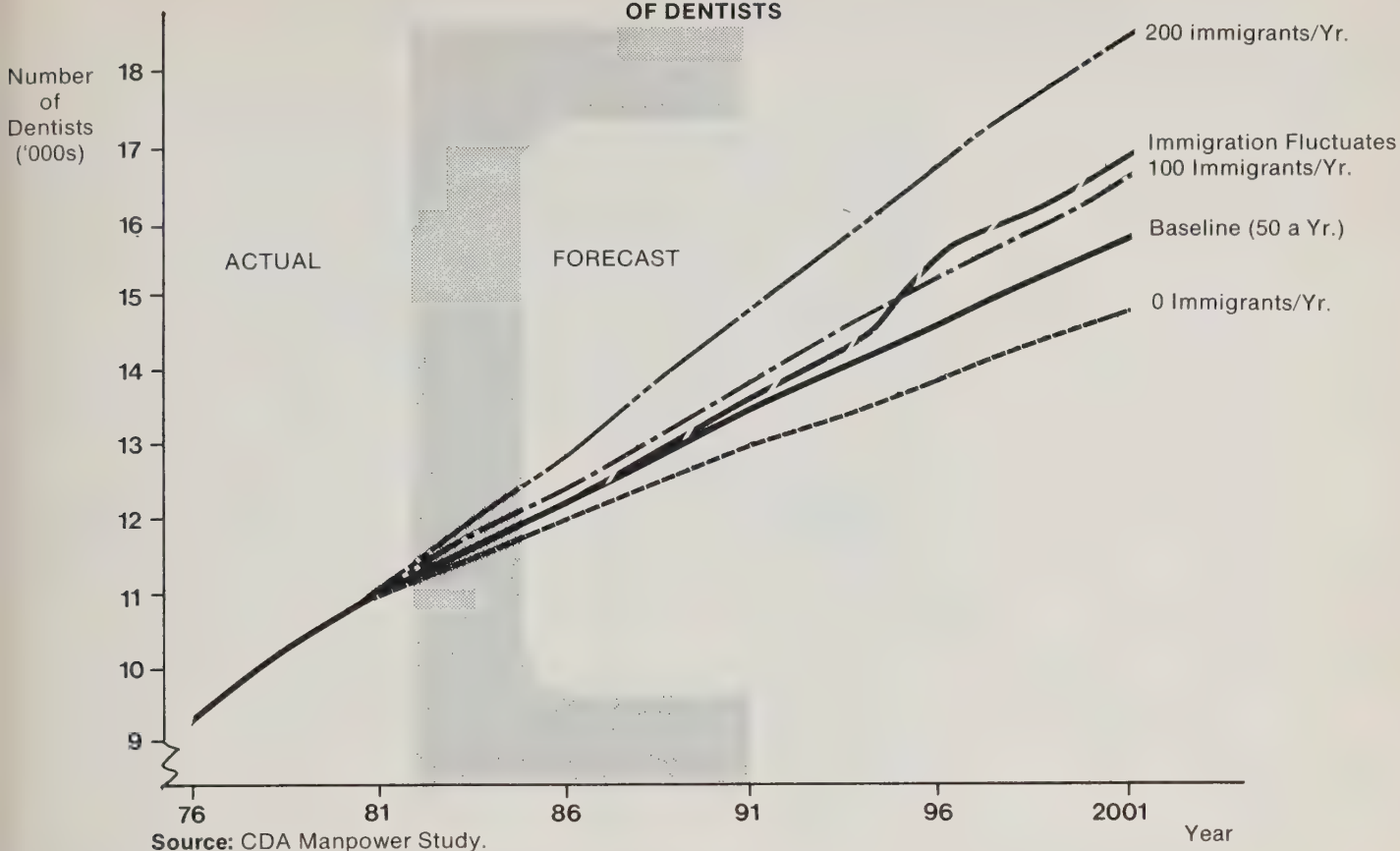


FIGURE 7

AGE DISTRIBUTION OF DENTISTS ACROSS CANADA, 1981

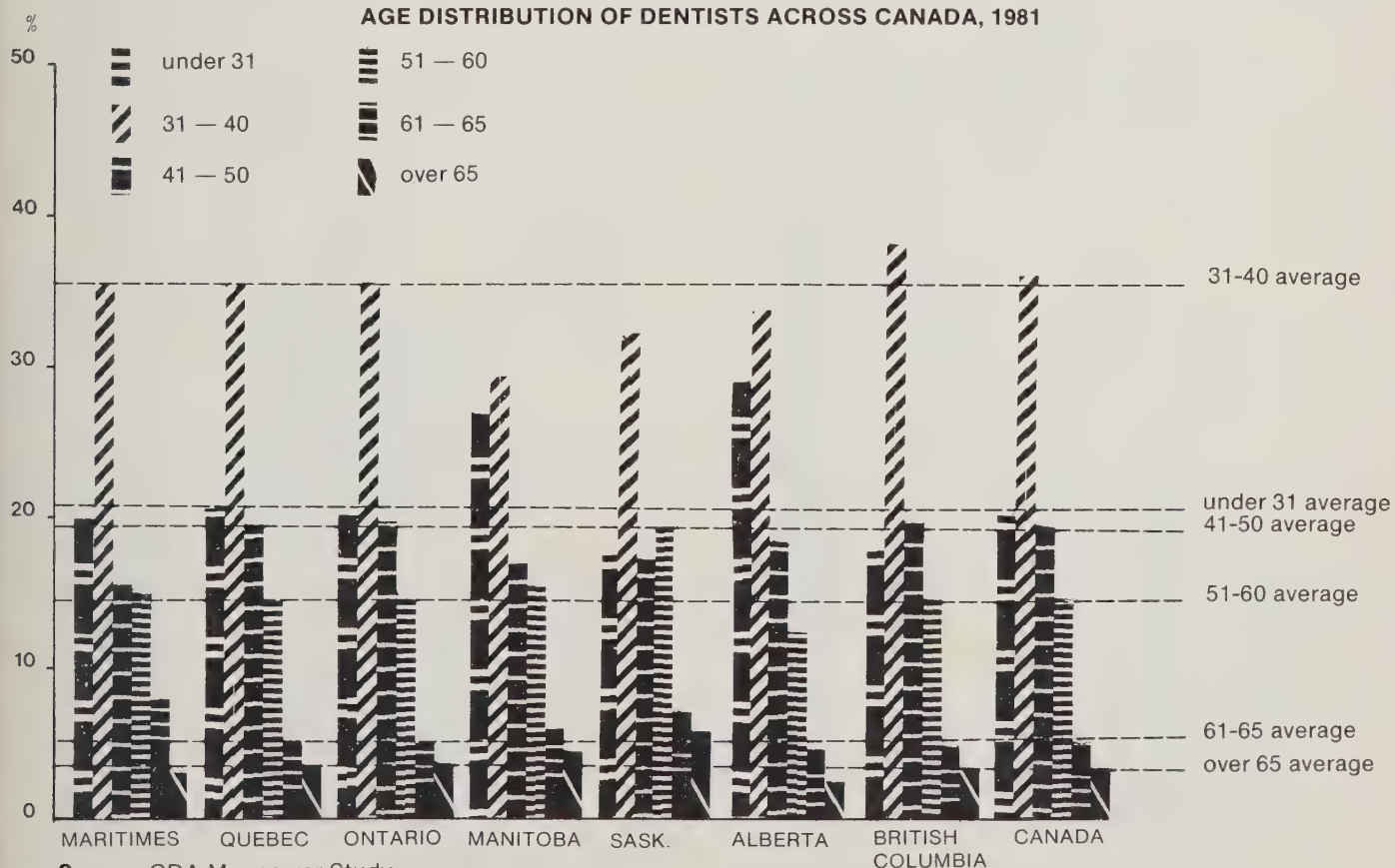


FIGURE 8
IMPACT OF DELAYED RETIREMENTS UPON THE SUPPLY OF DENTISTS

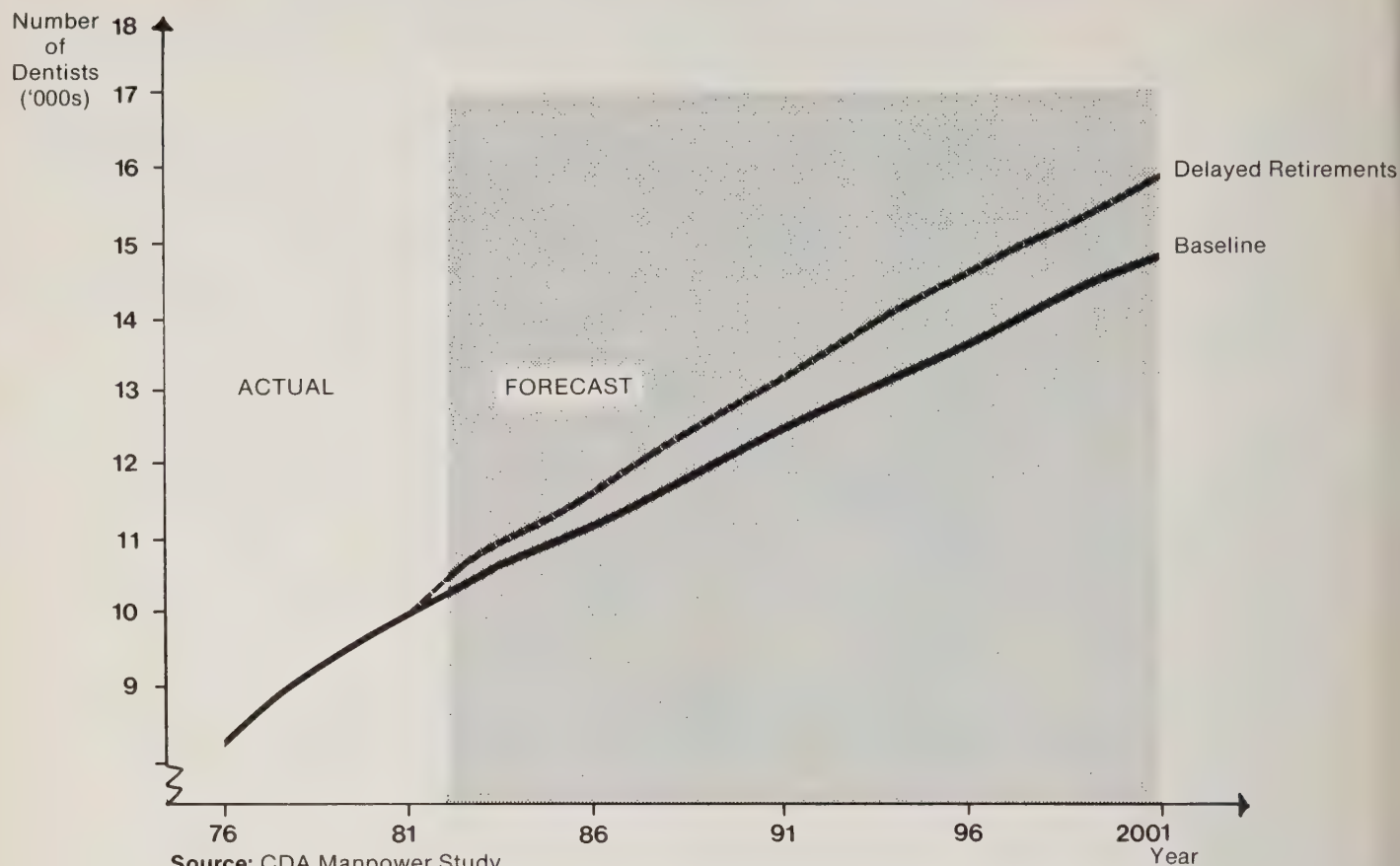


FIGURE 9
PERCENT OF DENTISTS WHO ARE FEMALE
1981 — 2001

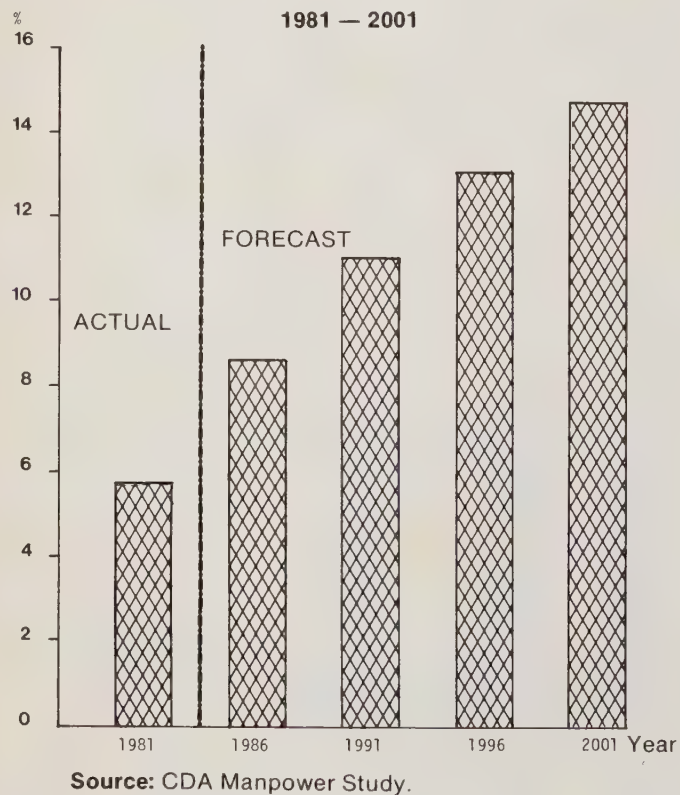


FIGURE 10
FORECAST OF THE NUMBER OF DENTISTS IN PRIVATE PRACTICE
FULL-TIME AND PART-TIME BY SEX

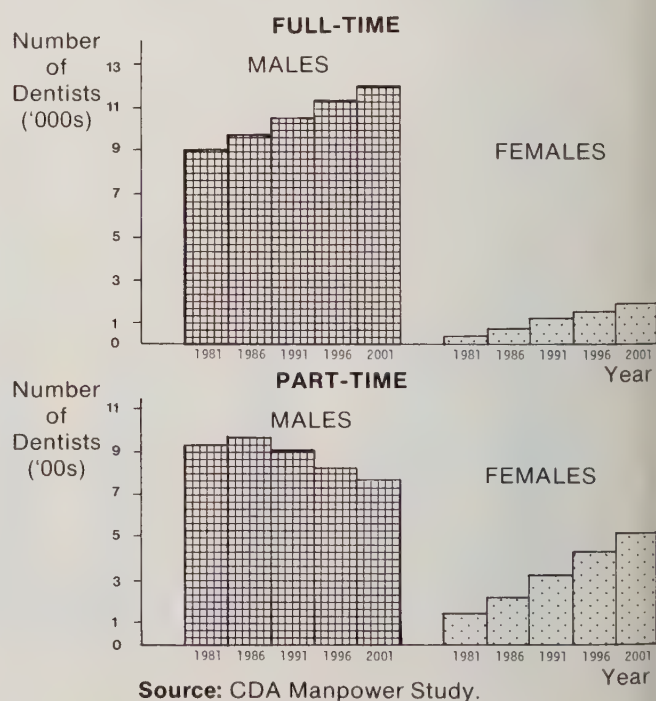


Table 6
Baseline Forecast
Dentists in FTE's by Province

Year	Atlantic Provinces	Quebec	Ontario	Manitoba	Sask.	Alberta	B.C.	Canada
1981	585	2,347	4,071	381	294	971	1,542	10,191
1986	647	2,475	4,509	423	354	1,172	1,626	11,206
1991	709	2,652	5,039	456	382	1,346	1,779	12,363
1996	748	2,858	5,537	488	407	1,516	1,936	13,490
2001	772	3,048	5,940	516	427	1,669	2,077	14,449

Source: CDA Manpower Study.

proportion as the general population. Immigrants, on the other hand, have been most attracted to Central Canada, the Western Provinces and only secondarily to the East Coast. Relative to the number of dentists in their Provinces, Manitoba and Saskatchewan in particular have had a large in-flow of dentists from other parts of the world. The low immigration level therefore dampens the growth rate in these provinces the most.

How Quickly Do We Approach Old Age?

As shown in **Figure 7**, 50 per cent of the current supply of dentists are under 40 years of age. This varies only slightly from province to province. Prince Edward Island's, Nova Scotia's and Saskatchewan's dentists are slightly older; Alberta's and Manitoba's slightly younger. The relative "youth" of the profession is naturally a result of the large number of graduates that have entered the supply, most under the age of 30 at the time of graduation.

Most of this group of dentists under 40 will not have retired by 2001. We cannot anticipate in consequence that the supply of manpower will be substantially reduced by attritions (retirements and deaths). In addition, approximately 10,000 graduates can be expected to supplement the supply in the next 20 years. They will rejuvenate the present stock.

Available statistics⁴ indicate that, on average, dentists tend to retire after 32 years of practice. Survey results also suggest however that retirement would be delayed by most dentists if personal economic circumstances were poor. **Figure 8** shows the impact a delay in retirement of five years would have on the supply. Supply would be increased by around 7 per cent by 2001.

In the same survey, dentists indicated that earlier retirement would be taken only if they suffered poor health or won the national lottery! Given the likelihood of at least the latter of these two events, a general decrease in the retirement age is not likely.

Dentists and the Differences Between the Sexes

The number of female dentists in Canada has grown over the last decade. This led us to question whether female dentists behaved differently from their male colleagues. According to our survey results, female dentists do not retire from the profession at a different age than male dentists but they do work fewer hours, often as associates, in the younger age groups.

This trend carries *some* importance when we translate the supply of dentists into full-time equivalents available for private practice. Its impact would be greater if the number of female graduates increased more rapidly than we have assumed in the baseline. For these forecasts, the number of female graduates each year was set equal to the number graduated in the recent past.

Figure 9 shows the increase in the percentage of females to 2001. In 1981, 5.8 per cent of the profession was female; by 2001 this percentage will grow to 14.7 per cent. **Figure 10** compares the number of female dentists that will be working part-time and full-time in private practice to the number of males. As the older male dentists fully retire to be replaced by young new graduates the number of male part-time dentists actually declines. The number of female "part-timers" conversely increases as females reduce working time to work at other concerns. This increase is almost equivalent in percentage terms to the increase of females working full-time.

Table 6 shows the number of full-time equivalents in private practice by province to 2001. Between 88 per cent and 92 per cent of the supply in each province was translated into full-time equivalents in 1981. This percentage will not substantially change by 2001. This is primarily because it has been assumed that the growth in the number of dentists working full-time outside of private practice in government agencies, hospitals or universities will grow at only the modest rate of 1 per cent a year.

Dental Hygienists and Certified Dental Assistants: Composition of the Dental Team

Dentists, of course, increasingly do not work alone.

⁴Recent economic surveys in some provinces by R.K. House and Associates.

Table 7
Baseline Forecast
Dental Hygienists¹

FTE's

Province

Year	Nfld.	P.E.I.	N.S.	N.B.	Atlantic Provinces	P.Q.	Ont.	Man.	Sask.	Alberta	B.C.	Canada
1981	12	18	122	43	195	615	1408	171	46	452	358	3245
1986	19	28	194	102	343	1389	2214	270	64	587	440	5307
1991	27	42	284	178	531	2110	3010	358	81	698	524	7312
1996	35	54	367	247	703	2789	3773	440	97	800	603	9205
2001	42	67	448	317	874	3450	4507	516	111	884	672	11014

Source: CDA Manpower Study.

Dental hygienists and certified dental assistants have become crucial parts of the dental team. **Tables 7 and 8** show the number of full-time equivalent hygienists and CDA's which will become available to 2001. **Figure II**, shows the ratio of hygienists* and CDA's* to each dentist*. It presents us with a rather alarming picture.

Over the last 11 years the number of Canadian graduates in these auxiliary occupations has increased 400 to 500 percent!⁵ The education boost given to the supply of auxiliaries in the '70's will cause the supply to grow rapidly. By 2001, the ratio of hygienists* to each dentist* in Canada will grow from the current level of 0.32 per year to

0.76, an increase of over 200 per cent! Similarly, for each dentist there will be 1.13 certified dental assistants*, up from the current level of 0.50.

The trend toward increased utilization of college trained auxiliaries within the dental office has been supported by statistics from many parts of the country. This same evidence also indicates that a CDA spends around 30 per cent of the work time doing billable procedures. A hygienist can spend in excess of 90 per cent of the time doing billable work. Given these facts, the outcome of the forecasts suggests that the productive capacity of the dental practice can potentially grow many times. It leads one to seriously deliberate whether the demand will be sufficient to allow dentists to continue hiring auxiliaries in growing proportions.

* in full-time equivalents

5 These include graduates from both nationally certified and non-certified post secondary institutions. All graduates however are recognized in the province in which they were educated.

* in full-time equivalents.

Table 8
Baseline Forecast
Certified Dental Assistants¹ (FTE's)

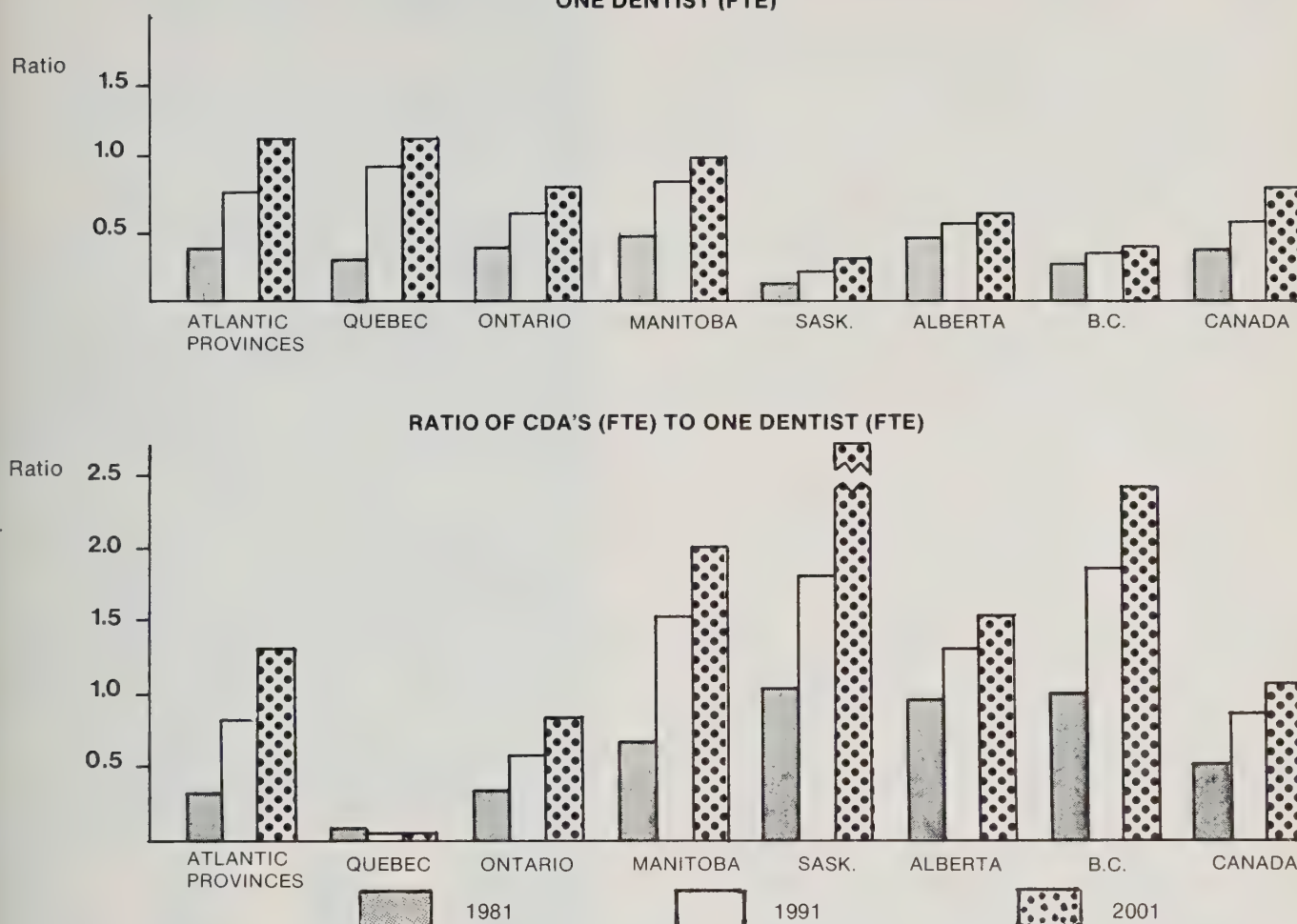
Province

Year	Nfld.	P.E.I.	N.S.	N.B.	Atlantic Provinces	P.Q.	Ont.	Man.	Sask.	Alberta	B.C.	Canada
1981	22	31	99	35	187	399	1310	267	352	926	1622	5059
1986	41	59	246	73	419	360	2258	501	663	1333	2489	8024
1991	55	80	374	115	624	349	3129	705	937	1735	3351	10829
1996	70	99	493	154	816	360	4001	902	1199	2158	4260	13696
2001	83	119	613	192	1007	360	4830	1094	1452	2554	5149	16446

Source: CDA Manpower Study.

FIGURE 11

FORECAST OF RATIO OF FULL-TIME EQUIVALENT DENTAL HYGIENISTS AND CERTIFIED DENTAL ASSISTANTS TO ONE FULL-TIME EQUIVALENT DENTIST RATIO OF DENTAL HYGIENISTS (FTE) TO ONE DENTIST (FTE)



Source: CDA Manpower Study.

The situation, of course, varies from province to province. The Atlantic Provinces, Quebec and Manitoba will have an above average number of hygienists to each dentist; the Atlantic Provinces, and the Western Provinces will have an above average number of CDA's per dentist. This difference is created because the supply of auxiliaries grows at a much greater level than do the supply of dentists.

A word of caution however is necessary. The data assumptions for these baselines were developed from available statistical sources; in some areas these sources were very sparse. For example, we have assumed that 5 per cent of CDA's in Canada except for Ontario will leave the occupation a short time after graduation, often to become hygienists. In Ontario, we have assumed that entrance to a hygienist program will continue to be dependent upon being a certified dental assistant. For this reason, the number of CDA's leaving the profession has not been set equal to 5 per cent of the recent graduates but equal to the number of hygienists being produced each year in Ontario. As a result, the ratio of CDA's to dentists in Ontario

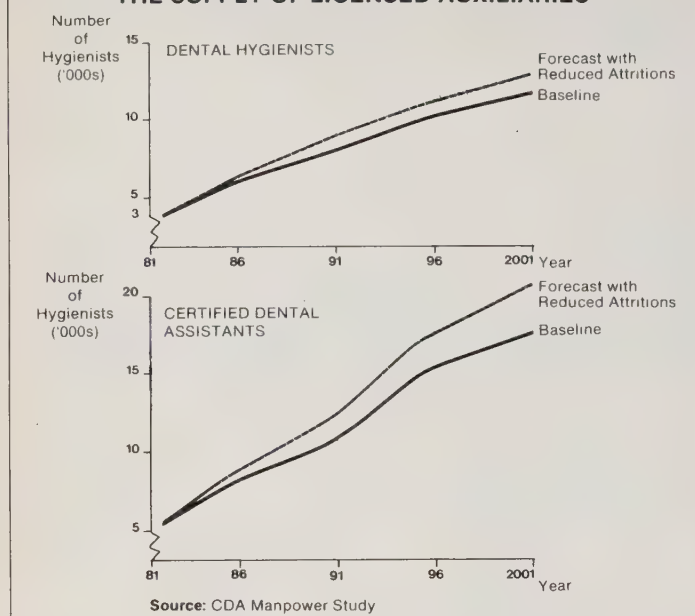
is lower than in the other provinces. This is despite the fact that Ontario has been the province to expand their educational output of CDA's the most. If more CDA's tend to change occupations than available sources indicated the supply will decrease accordingly.

Auxiliaries have also shown a tendency to "opt out" of the occupation to raise families and to return at a later date. CDA's do this more than hygienists. Time series data for hygienists indicate however that the degree to which this is done is declining. This is a trend supported by studies of female work behaviour in general. **Figure 12** shows what impact there would be on the supply if these auxiliaries retired in the same way as female dentists and entirely eliminated the "exit-re-entry" syndrome. This change would increase the supply of hygienists by 10.5 per cent; the supply of CDA's by 19.7 per cent by 2001.

It is patently clear that given the growth in the output of the education system the supply of auxiliaries will grow rapidly. With better information, specific levels can be better pinpointed.

FIGURE 12

IMPACT OF FEMALE DENTIST ATTRITION RATES UPON
THE SUPPLY OF LICENSED AUXILIARIES



CONCLUSIONS

The baseline forecasts which extends the trends of the future to 2001 have indicated that the profession still must face continued pressure in the future. The supply of dentists will increase by around 40 per cent over the next 20 years. The population, on the other hand, will grow at a lower rate.

The supply is fuelled from a number of sources: graduates, and the net in-flow from other provinces and countries. Each have a different emphasis in the provinces. Any policy changes which may be forwarded to hasten the recovery in the profession must inevitably consider impacts by region or province.

Policy changes have indeed already moderated the growth of the supply of dentists. Recent tightening of immigration policy is projected to reduce supply by 5 per cent to 6 per cent by 2001.

Policy decision-makers must also take account of the fact that the present stock of dentists are too young to allow for much additional reduction of supply growth through natural retirements. Poor economic times are more likely to delay retirements. Because the growth of the public sector is expected to be slow there will not be a significant "drain off" of dentists to the universities or government agencies away from private practice. A constant 91 per cent to 92 per cent of the overall supply in Canada will translate into full-time equivalents available for private practice throughout the forecast period.

Given all these influences, policymakers face difficult and complex decisions. This study has provided a vehicle for examining many of the possibilities. Supply policy considerations may also extend to the total dental team. We will, in addition, need to be mindful of how demand policies may interact with the supply.

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National Dental Health Month preparations now completed

Preparations for National Dental Health Month in April, are complete.

The theme this year is "Smile Canada — April is National Dental Health Month"/"Sourions à pleines dents — Avril est le Mois national de santé dentaire." Posters and decals in both official languages featuring the theme and the popular depiction of two teenagers that appeared in last year's campaign, are available.

Posters cost \$150 per 1,000 and decals are \$40 per 1,000. National Dental Health Month lapel buttons, featuring an abbreviated version of the slogan, are available from the Canadian Dental Hygienists' Association, c/o Joanne Clovis, #1,14310 10th Street, Edmonton, Alta. T5C 1G6, at \$25 per 100. Minimum orders for the posters and decals are 1,000 and the minimum quantity for the buttons is 100.

The 1983 planning kits contain nine separate sections. These include "Planning Your Program," which gives hints about how to make an DHM program effective from start to finish, and "Publicity," which includes ideas on effective press releases and media relations. There are 14 suggested newspaper articles included in this year's kit, which can be distributed to the local print media. Topics ranging from geriatric dentistry to fear of the dentist in children are covered.

Practitioners who may be asked to speak at community events during DHM may benefit from the sections, "Suggestions for Speakers" or "Speeches." A new section, called "Facts for Spokespersons", has been added to this year's kit. It includes statistics and facts which may be useful in an interview, or for answering public inquiries.

Sections are also included on resource aids such as films and dental health publications and highlights of the 1982 campaign.

A black-and-white reproduction sheet of the poster and a tear-sheet of Canada's Food Guide are also in the kit. Samples of the Canadian Dental Association's latest dental education pamphlets, "Eating Properly for Bet-

ter Dental Health," "Do You Smoke, Have Your Mouth Checked," "Do You Have Periodontal Disease?," "Do It Yourself Oral Hygiene," and "Dangerous in Bed," are also included.

The 1983 planning kits are available from CDA headquarters, free of charge, to interested health professionals and educators.

Revision

Some incorrect references were contained in the CDSPI report, which was part of the report of the Annual Meeting of the CDA Board of Governors in the December edition of the Journal.

The paragraph beginning at the bottom of the centre column on Page 763, should have read as follows:

CDSPI announced changes regarding malpractice insurance.

Commencing January 1, 1983, excess malpractice insurance of \$1,000,000 will be available over and above the basic \$1,000,000 of coverage. The maximum aggregate limit will increase to \$6,000,000 in any one year for those who apply for the excess coverage. The basic \$1,000,000 of coverage will cost \$160 while the excess will be offered for an additional premium of \$28.75 per annum.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association's Retirement Savings Plan stood as follows on December 31, 1982.

<i>Common Stock Fund</i>	\$62.1959
<i>Fixed Income Fund</i>	\$33.8400
<i>Guaranteed Fund</i>	\$25.1782
<i>Balanced Fund</i>	\$12.8708

Total assets (market value) of the plan were \$33,686,422.

The previous month's figures, as of November 30, 1982, stood as follows:

<i>Common Stock Fund</i>	\$58.8945
<i>Fixed Income Fund</i>	\$32.9995

<i>Guaranteed Fund</i>	\$24.9568
<i>Balanced Fund</i>	\$12.3247

Total assets (market value) of the plan were \$32,778,000.

For further information write to: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3 or call the central information services of CDSPI at 1-800-268-5418 (toll free number for Western Canada, Atlantic Canada and Ontario for Code 807 only), 1-800-268-3411 (toll free number for Quebec and Ontario except Code 807), and 497-7117 (Metro Toronto area).

Briefly —

Newfoundland is likely to have a new dental act by early this spring. The act will empower future dental licensing boards to define and regulate dental auxiliaries and will probably alter the structure of the Newfoundland Dental Board itself. The present board is composed of four dentists and the deputy minister of health, ex-officio. Because members of the Newfoundland Dental Association have for some time been critical of the present dental act, passed in 1968, particularly because many sections no longer apply to circumstances, a request was made to the provincial government about five years ago that a new act be framed. The minister of health is scheduled to introduce the draft of the new act in the Newfoundland House of Assembly later this month.

♦♦♦♦♦♦♦♦

Dr. Marc Boucher of Québec City has been elected president of L'Ordre des dentistes du Québec. The new vice-president is Dr. Michel Jahjah, of Montréal. The term of office for the president is four years, and for the vice-president, one year. Dr. Boucher has been a member of the ODQ board for ten years.

♦♦♦♦♦♦♦♦

Dr. S. Tandan, Director of Dental Services for the Hamilton-Wentworth Regional Health Unit, is the new president of the Ontario Society of Public Health Dentists. The new vice-president is Dr. P.A. Main, Director of Dental Services of the North York Health Department. Past-president is Dr. J. Shosenberg, Director of Dental Services for the Scarborough Health Department. Dr. S. Green, Director of Dental Services of the Etobicoke Health Department is the secretary, and Dr. K. Ambrozaitis, Director of Dental Services, Region of York Public Health Branch, is the treasurer.

♦♦♦♦♦♦♦♦

In 1980, there were 646 persons for every physician in Canada, compared with 837 in 1970, according to figures revealed in the 1981 Canada Health Manpower Inventory, recently released by Health and Welfare Canada Minister Monique Bégin. The Inventory further states that in 1980, there were 37,287 active civilian physicians in Canada (excluding interns and residents), while in 1970, there were 25,656. British Columbia has the lowest population-physician ratio, at 558:1, while the Northwest Territories has the highest, at 1,097 persons per physician.

♦♦♦♦♦♦♦♦

The Bureau of Medical Devices, Environmental Health Directorate, Health and Welfare Canada, invites dental practitioners to apply for a supply of Medical Device Problem Report forms. The Bureau, an official said, feels that more practitioners could be using this service, without straining the facilities.

The report forms are available from the Bureau (as per the above title) at Tunney's Pasture, Ottawa, Ont., K1A 0L2 (or from regional offices of the Health Protection Branch, Health and Welfare Canada). On receipt of the completed problem reports, the Bureau will investigate, on a priority basis, every report of a hazard, problem, shortcoming, inadequate labelling or directions, misleading advertising or other concerns associated with any medical device whatsoever.

All reports are strictly confidential. Results are made available to the author of the report.

♦♦♦♦♦♦♦♦

The final draft of the New Brunswick Dental Act has been completed.

The Act is unique in Canada, said Dr. W.G. Thompson, Registrar of the New Brunswick Dental Association. It contains regulations which govern

dentists, dental hygienists and dental assistants. No other provincial sets out regulations for practitioners and auxiliaries in the same legislation.

The Act will be tabled in its final form in the New Brunswick Legislative Assembly in the spring.

♦♦♦♦♦♦♦♦

Certificates of Merit were awarded to the following individuals for their work on the CDA Board of Governors, a Council or a Committee.

Those who received Certificates of Merit in 1982 included: Dr. R.D. Kinniburgh, of Alberta and Dr. R.D. Sexton, Newfoundland, CDA Governors; Dr. J.W. Bradey, chairman, Council on Ethics; Dr. P. Judd, chairman, Council on Student Affairs; Dr. D. Yeo, who served his last term on the Council on Education as chairman; Drs. J.F. Begin, T.M. Dobbs and D. Freidin, Council on Health Care; Dr. M.J. Crompton, Council on Nominations; Dr. D. Gau, Council on Dental Materials & Devices; Dr. P.Y. Lamarche, Council on Ethics; Drs. Osborn, G.H. Peacock and E. Raczak, Council on Education. Other recipients were: Dr. R.D. Sexton, Newfoundland's representative on the Executive Council; Dr. D.V. Banting, Product Acceptance Committee; and Dr. G.C. Stirling, chairman of the CDA/ODA 1982 Convention.

♦♦♦♦♦♦♦♦

Dr. Paul D. McDougall of Victoria, B.C., has been inducted into active membership in the American Association of Orthodontists at the annual meeting of the Pacific Coast Society of Orthodontists held October 10 - 15 in Phoenix, Arizona.

Dr. McDougall maintains a private practice in Victoria and Duncan, B.C. He received his orthodontic degree from the University of Detroit.

He graduated from McGill University, Faculty of Dentistry in 1979.

DA Resource Centre/Le Centre de documentation

ORAL CANCER

Copies of the following articles are available at no charge from the library. This bibliography was generated with the help of MEDLARS, a computerized information retrieval system for the Health Sciences field, which has been operational at the library since February 1982 and is at the disposal of all members.

Amsel, Z. and Strawitz, J.G. and Engstrom, P.F. *Oral cancer screening in the dental office*. Progress in Clinical and Biological Research, v. 83, 1982, pp. 163 - 174.

Becker, C.E. *Review of pharmacologic and toxicologic effects of alcohol*. Journal of the American Dental Association, v. 99, no. 3, September 1979, pp. 494 - 500.

Carl, W. *Dental management and prosthetic rehabilitation of patients with head and neck cancer*. Head and Neck Surgery, v. 3, no. 1, September - October 1980, pp. 27 - 42.

Carl, W. *Dental management of head and neck cancer patients*. Journal of Surgical Oncology, v. 15, no. 3, 1980, pp. 265 - 281.

Carl, W. *Oral and dental care for cancer patients receiving radiation and chemotherapy*. Quintessence International, v. 12, no. 9, September 1981, pp. 861 - 869.

Chesko, E.E. *Detecting early oral cancer. The dentist's role is crucial*. Oral Health, v. 69, no. 1, January 1979, pp. 42 - 43.

Christen, A.G. *The case against smokeless tobacco: five facts for the health professional to consider*. Journal of the American Dental Association, v. 101, no. 3, September 1980, pp. 464 - 469.

CANCER BUCCAL

On peut se procurer sans frais à la bibliothèque le texte des articles ci-dessous. Cette bibliographie a été dressée grâce à MEDLARS, un système automatisé de recherche documentaire sur les sciences de la santé que la bibliothèque exploite depuis le mois de février 1982, et qu'elle met au service de tous les membres.

8. Danforth, R.A. *Chievitz's organ: a potential pitfall in oral cancer diagnosis*. Oral Surgery, Oral Medicine, Oral Pathology, v. 48, no. 3, September 1979, pp. 231 - 236.

9. Eckert, D. and Bloom, H.J. and Ross, L.S. *A review of oral cancer screening and detection in the metropolitan Detroit cancer control program*. Progress in Clinical and Biological Research, v. 83, 1982, pp. 195 - 206.

10. Fowler, G.G. and Reade, P.C. and Radden, B.G. *Intraoral cancer in Victoria*. Medical Journal of Australia, v. 2, no. 1, July 12, 1980, pp. 20 - 22.

11. Gratt, B.M. and Sickles, E.A. and Silverman, S. jr. *Dental xero-radiography as an adjunct in the evaluation of oral cancer: a preliminary report*. Oral Surgery, Oral Medicine, Oral Pathology, v. 49, no. 4, April, 1980, pp. 303 - 308.

12. Liss, J. and others. *Changes in the prevalence of dental disease. Bureau of Economic and Behavioral Research, Council on Dental Health and Health Planning*. Journal of the American Dental Association, v. 105, no. 1, July, 1982, pp. 75 - 79.

13. Peterson, D.E. and Overholser, C.D. *Increased morbidity associated with oral infection in*

patients with acute nonlymphocytic leukemia. Oral Surgery, Oral Medicine, Oral Pathology, v. 51, no. 4, April, 1981, pp. 390 - 393.

14. Trell, E. and others. *Carcinoma of the oral cavity in relation to aryl hydrocarbon hydroxylase inducibility, smoking and dental status*. International Journal of Oral Surgery, v. 10, no. 2, April 1981, pp. 93 - 99.

15. Toth, B.B. and others. *Angiosarcoma metastatic to the maxillary tuberosity gingiva*. Oral Surgery, Oral Medicine, Oral Pathology, v. 52, no. 1, July, 1981, pp. 71 - 74.

16. Vergo, T.J. jr. and Kadish, S.P. *Dentures as artificial saliva reservoirs in the irradiated edentulous cancer patient with xerostomia: a pilot study*. Oral Surgery, Oral Medicine, Oral Pathology, v. 51, no. 3, March 1981, pp. 229 - 233.

17. Young, R.F. *Effect of trigeminal tractotomy on dental sensation in humans*. Journal of Neurosurgery, v. 56, no. 6, June 1982, pp. 812 - 818.

18. Whitaker, C.J. and others. *Oral and pharyngeal cancer in the Northwest and West Yorkshire regions of England, and occupation*. British Journal of Industrial Medicine, v. 36, no. 4, November 1979, pp. 292 - 298.

New Library Acquisitions

The following audio-cassettes of the proceedings of the Canadian Dental Association Quality Assurance and Peer Review Conference, November 18, 1982, are available on loan from the Resource Centre/Library.

Nouveaux Titres en Bibliothèque

Les cassettes suivantes des actes du Congrès de l'Association dentaire Canadienne sur la révision professionnelle peuvent être empruntées à la bibliothèque/centre de documentations de l'ADC.

Contents:

- | | | |
|---|--|---|
| I. <i>Welcome</i>
Dr. William R. Thompson,
President CDA | American Dental Association. | Mr. John O'Donnell, Secretary, Council on Care Programs, American Dental Association |
| II. <i>Overview of American Dental Association's Quality Assurance (QA) Activities</i>
Mr. Delmar J. Stauffer, Assistant Executive Director, American Dental Association | IV. <i>QA Concepts and Research</i>
Dr. Howard L. Bailit, Professor, Columbia University | VII. <i>Canadian Experience in Quality Assurance</i>
Mr. Hubert Drouin, Executive Director, CDA, presiding |
| III. <i>QA — The ADA'S Current Activities</i>
Mr. John S. Klyop, Director, Office of Quality Assurance, | V. <i>Peer Review in the United States</i>
Dr. Gordon D. Marx, Member, Council on Dental Care Programs, American Dental Association | VIII. <i>Open Panel Discussion with Today's Speakers</i>
Mr. Delmar J. Stauffer, presiding |
| | VI. <i>American Dental Association National Peer Review Reporting System</i> | IX. <i>Closing Remarks</i> |

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45	\$ 300.00	\$ 566.80
46	300.00	566.80
47	300.00	566.80
48	300.00	566.80
49	300.00	566.80
50	383.10	566.80
51	383.10	566.80
52	383.10	566.80
53	383.10	566.80
54	383.10	566.80
55	437.30	566.80
56	437.30	566.80
57	437.30	566.80
58	437.30	566.80
59	437.30	566.80
60	477.40	566.80
61	477.40	566.80
62	477.40	566.80
63	477.40	566.80
64	477.40	566.80
Total Premium in 20 years =	\$7,989.00	\$11,336.00

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Action: Ibuprofen has demonstrated anti-inflammatory, analgesic and antipyretic activity in animal studies designed to specifically demonstrate these effects. Ibuprofen has no demonstrable glucocorticoid effect.

Following a single 200 mg dose of ibuprofen in humans, useful blood levels were demonstrable in 45 minutes and still present in six hours but at barely detectable levels. Peak levels occurred at approximately one hour after ingestion. Levels were lower when taken in conjunction with food.

Ibuprofen is rapidly metabolized and eliminated in the urine. The excretion of ibuprofen is virtually complete 24 hours after the last dose. The serum half-life of ibuprofen is 1.8 to 2 hours. There is no evidence of drug accumulation or enzyme induction.

Ibuprofen has been found to be less likely to cause gastro-intestinal bleeding in doses usually used than is acetylsalicylic acid.

Clinical trials in man have shown activity of a dose of 1200–1800 mg of ibuprofen daily to be similar to that of 3.6 grams of acetylsalicylic acid daily.

Indications and Clinical Uses: Motrin (ibuprofen) is indicated for the treatment of rheumatoid arthritis and osteoarthritis. Motrin is also indicated for the relief of mild to moderate pain accompanied by inflammation in conditions such as musculo-skeletal trauma and post-dental extraction. Motrin is also indicated for the relief of pain associated with dysmenorrhea.

Contraindications: Motrin (ibuprofen) should not be used in patients who have previously exhibited hypersensitivity to it, or in individuals with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to acetylsalicylic acid or other nonsteroidal anti-inflammatory agents. (see WARNINGS)

Motrin should not be used during pregnancy, in nursing mothers or in pediatric patients because its safety under these conditions has not been established.

Warnings: Anaphylactoid reactions have occurred in patients with known A.S.A. hypersensitivity (see CONTRAINDICATIONS)

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported in patients receiving Motrin (ibuprofen). Peptic ulceration, perforation, or severe gastrointestinal bleeding can have a fatal outcome, and although few such reports have been received with Motrin, a cause and effect relationship has not been established. Motrin should be given under close supervision to patients with a history of upper gastro-intestinal tract disease.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in colour vision have been reported. If a patient develops such complaints while receiving Motrin (ibuprofen), the drug should be discontinued and the patient should have an ophthalmological examination.

Fluid retention and edema have been reported in association with Motrin; therefore, the drug should be used with caution in patients with a history of cardiac decompensation or renal disease.

Motrin, like other nonsteroidal anti-inflammatory agents, can inhibit platelet aggregation but the effect is quantitatively less and of shorter duration than that seen with acetylsalicylic acid. Motrin has been shown to prolong bleeding time (but within the normal range) in normal subjects. Because this prolonged bleeding effect may be exaggerated in patients with underlying hemostatic defects, Motrin should be used with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients on Motrin should be cautioned to report to their physicians signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

When Motrin is added to the treatment program of patients who have been on prolonged corticosteroid therapy, and it is decided to discontinue this therapy, the corticosteroid should be tapered slowly to avoid exacerbation of disease or adrenal insufficiency.

Aseptic meningitis has been reported in connection with Motrin therapy in patients with systemic lupus erythematosus. Such patients may also develop hypersensitivity reactions to Motrin such as fever, rash or abnormal liver function more often than those with other disorders. Caution should therefore be exercised when considering Motrin therapy for patients with systemic lupus erythematosus.

Drug Interactions

Coumarin-type anticoagulants: Several short-term controlled studies failed to show that Motrin significantly affected prothrombin times or a variety of other clotting factors when administered to individuals on coumarin-type anticoagulants. However, because bleeding has been reported when Motrin and other nonsteroidal anti-inflammatory agents have been administered to patients on coumarin-type anticoagulants, the physician should be cautious when administering Motrin to patients on anticoagulants.

A.S.A.: Animal studies show that A.S.A. given with nonsteroidal anti-inflammatory agents including Motrin yields a net decrease in anti-inflammatory activity with lowered blood levels of the non-A.S.A. drug. Single dose bioavailability studies in normal volunteers have failed to show an effect of A.S.A. on Motrin blood levels. Correlative clinical studies have not been done.

Adverse Reactions: The following adverse reactions have been noted in patients treated with Motrin (ibuprofen):

Note: Reactions listed below under Causal Relationship Unknown are those which occurred under circumstances where a causal relationship could not be established. However, in these rarely reported events, the possibility of a relationship to Motrin cannot be excluded.

Gastrointestinal: The adverse reactions most frequently seen with Motrin therapy involve the gastrointestinal system.

Incidence 3 to 9%: nausea, epigastric pain, heartburn

Incidence 1 to 3%: diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the gastrointestinal tract (bloating or flatulence)

Incidence less than 1%: gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, hepatitis, jaundice, abnormal liver function (SGOT, serum bilirubin and alkaline phosphatase)

Central Nervous System:

Incidence 3 to 9%: dizziness

Incidence 1 to 3%: headache, nervousness

Incidence less than 1%: depression, insomnia

Causal relationship unknown: paresthesias, hallucinations, dream abnormalities

Dermatologic

Incidence 3 to 9%: rash (including maculopapular type)

Incidence 1 to 3%: pruritus

Incidence less than 1%: vesiculobullous eruptions, urticaria, erythema multiforme

Causal relationship unknown: alopecia, Stevens-Johnson syndrome

Special Senses:

Incidence 1 to 3%: tinnitus

Incidence less than 1%: amblyopia (blurred and/or diminished vision, scotomata and/or changes in colour vision) Any patient with eye complaints during Motrin therapy should have an ophthalmological examination (see PRECAUTIONS)

Causal relationship unknown: conjunctivitis, diplopia, optic neuritis

Metabolic

Incidence 1 to 3%: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS)

Hematologic.

Incidence less than 1%: leukopenia and decreases in hemoglobin and hematocrit

Causal relationship unknown: hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes (e.g. purpura, epistaxis, hematuria, menorrhagia)

Cardiovascular:

Incidence less than 1%: congestive heart failure in patients with marginal cardiac function, elevated blood pressure

Causal relationship unknown: arrhythmias (sinus tachycardia, sinus bradycardia, palpitations)

Allergic:

Incidence less than 1%: anaphylaxis (see CONTRAINDICATIONS)

Causal relationship unknown: fever, serum sickness, lupus erythematosus syndrome

Endocrine.

Causal relationship unknown: gynecomastia, hypoglycemic reaction

Renal:

Causal relationship unknown: decreased creatinine clearance, polyuria, azotemia

Symptoms and Treatment of Overdosage: A nineteen month old child weighing 12 kg ingested from 2800 to 4000 mg of Motrin (ibuprofen) and presented with apnea, cyanosis and responded only to painful stimuli. Oxygen and parenteral fluids were given and at 12 hours she appeared completely recovered. Two other children (10 kg each) ingested 1200 mg of Motrin each and there were no signs of acute intoxication or late sequelae. A 19 year old male who had ingested 8000 mg of Motrin reported dizziness, and nystagmus was noted. He recovered with no reported sequelae after parenteral hydration and three days' bed rest.

In cases of acute overdosage, the stomach should be emptied by vomiting or lavage, though little drug will likely be recovered if more than an hour has elapsed since ingestion. Because the drug is acidic and is excreted in the urine, it is theoretically beneficial to administer alkali and induce diuresis.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis: The initial daily dosage in adults is 1200 mg divided into 3 or 4 equal doses. Depending on the therapeutic response, the dose may be adjusted downward or upward. The daily dosage should not exceed 2400 mg.

Maintenance therapy, once maximum response is obtained, will range from 800 to 1200 mg per day.

Mild to moderate pain accompanied with inflammation, dysmenorrhea: 400 mg repeated as required every 4 to 6 hours. The daily dosage should not exceed 2400 mg.

Children: Due to the lack of clinical experience, ibuprofen is not indicated for use in children under 12 years of age.

Supplied: 200 mg (yellow), 300 mg (white), 400 mg (orange) sugar-coated tablets and 600 mg (peach) film-coated tablets in bottles of 100 and 1000

Product monograph available on request. CE 1542 1C

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Action

Ultracaine (articaine HCl) has been shown to block conduction by interfering with the process fundamental to the generation of the nerve action potential, namely the large transient increase in the permeability of the membrane to sodium ions that is produced by a slight depolarization of the membrane.

Indications

Ultracaine is indicated for infiltration anesthesia and nerve block anesthesia in clinical dentistry.

Contraindications

Ultracaine is contraindicated in patients with a known hypersensitivity to local anesthetics of the amide group; in the presence of sepsis near the proposed injection site; in patients with severe shock; in patients with any degree of heart block; in patients with existing neurologic disease and in patients with severe hypertension.

When **Ultracaine** with epinephrine is used, the caution required of any vasopressor drug is in order.

Warnings

Methemoglobinemia

As with other local anesthetics, **Ultracaine** is capable of producing methemoglobinemia: this has been observed when an intravenous regional anesthesia technique was used. **Ultracaine**, when used as directed in dental procedures, was not associated with methemoglobinemia.

Usage in Pregnancy

Animal studies have not demonstrated teratogenic or embryotoxic effects of **Ultracaine**. However, safe use in pregnant women has not been established. **Ultracaine** is unlikely to be transferred to the mother's milk since it is rapidly decomposed and eliminated.

Precautions

Resuscitative equipment and drugs should be readily available when any local anesthetic is used. The safety and effectiveness of local anesthetics depend upon proper dosage, correct technique, adequate precautions and readiness for emergencies. **Ultracaine** should be used cautiously in persons with known drug allergies or sensitivities, or suspected sensitivity to the amide-type local anesthetics.

Adverse Reactions

Reactions to **Ultracaine** are characteristic of those associated with amide-type local anesthetics. A major cause of adverse reactions to this group of drugs is excessive plasma levels, which may be due to overdosage, inadvertent intravascular injection, or slow metabolic degradation. Other causes of reactions to these local anesthetics may be hypersensitivity, idiosyncrasy, or diminished tolerance.

Dosage and Administration

As with all local anesthetics, the dosage varies and depends upon the area to be anesthetized, the vascularity of the tissues, the number of neuronal segments to be blocked, individual tolerance and the technique of anesthesia. The lowest dosage, needed to provide effective anesthesia should be administered.

	Infil- tration	Nerve Block	Oral Surgery
Ultracaine	0.5-2.5	0.5-3.6	1.0-5.4
DS forte	mL	mL	mL
Ultracaine	0.5-2.5	0.5-3.6	1.0-5.4
DS	mL	mL	mL

It is recommended not to exceed 7 mg/kg body weight in adults.

To date, **Ultracaine** has not been administered to children under 4 years of age, nor in doses greater than 5 mg/kg in children between the ages of 4 and 12.

Supply

Ultracaine D-S: 4% with epinephrine (1/200,000) and Ultracaine D-S forte: 4% with epinephrine (1/100,000) are available in 1.8 mL cartridges, box of 50 cartridges.

Product Monograph available on request.

References:

1. Kirsch, A., Dental Clinic, University of Feiburg, i. Br., Zahnärztl. Welt, to be published.
2. Schulze-Husmann, M.: Experimental Evaluation of the New Local Anesthetic Ultracaine in Dental Practice, Dissertation, Bonn, 1974.
3. Results of a Multicentre Trial in Lower Premolars, Data on File, Hoechst AG.

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Le salaire varie de \$34 980, pour les nouveaux diplômés, à \$43 140, pour les dentistes d'expérience.

Joignez-vous à ceux qui servent fièrement notre pays au Canada et en Europe. Pour plus de renseignements, visitez le centre de recrutement le plus près de chez vous ou téléphonez à frais virés—vous nous trouverez dans les Pages jaunes, sous la rubrique Recrutement, ou postez ce coupon.

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Étude des ressources en personnel Perspectives d'avenir d'ici à l'an 2001

R. K. House, Ph.D
Gail G. Johnson, Ph.D.
Frank A. Edwards, M.A.

INTRODUCTION

Les effectifs des services dentaires ont subi, au cours de la dernière décennie, des transformations profondes qui ont incité l'Association dentaire canadienne à lancer une vaste étude cherchant à prévoir l'évolution, d'ici l'an 2001, des ressources en personnel, qu'il s'agisse des dentistes, des hygiénistes dentaires ou des assistantes dentaires agréées. Le présent rapport fait état de ces projections. Nous avons examiné de façon particulière les tendances "les plus vraisemblables", de même que les percussions que pourraient avoir diverses orientations, touchant notamment l'équilibre à maintenir quant au nombre des nouveaux diplômés et au taux d'immigration. Nous avons analysé aussi l'influence particulière qu'exercent les migrations du personnel ainsi que les rapports de sexe.

L'étude a été rendue possible grâce à la collaboration des organismes de réglementation, des associations professionnelles et des institutions d'enseignement, qui oeuvrent dans le domaine de la médecine dentaire et qui nous ont fourni des renseignements aussi précis que possible sur les effectifs professionnels ainsi que sur le nombre des diplômés sortant des institutions de formation. En outre, les sondages faits par R. K. House et Associés dans diverses provinces et la consultation d'études déjà publiées ont aidé à faire ressortir les tendances actuelles.

Les principales conclusions de l'étude indiquent que les services dentaires devront relever de nouveaux défis au cours des vingt prochaines années. Ainsi, le nombre de dentistes continuera d'augmenter plus rapidement que la

population, quoique plus lentement qu'au cours des dix dernières années. Le nombre des hygiénistes dentaires et des assistantes dentaires agréées augmentera à un tel rythme qu'il faudra modifier considérablement la composition des équipes dentaires pour employer tous les auxiliaires diplômés disponibles.

La profession peut modifier ses orientations de diverses façons pour résoudre ces problèmes, mais il ne nous appartient pas ici de dicter les changements à apporter. Naturellement, pour mettre en oeuvre une mesure, il faut garder en ligne de compte divers facteurs d'ordre politique, social et épidémiologique. Nous faisons voir cependant que certaines mesures ont des effets différents d'une région à l'autre du pays et que d'autres voient leur portée limitée par les tendances des migrations ou les groupes d'âge. En ce sens, le modèle de simulation par ordinateur, mis au point pour l'étude, permet aux personnes responsables d'examiner attentivement les effets des diverses orientations qu'elles peuvent prendre, en regard de chaque région du pays.

Brièvement, qu'entend-on par projections de base?

Pour dessiner l'avenir des trois principaux groupes qui nous concernent, nous commençons par établir des projections de base, en supposant que l'état actuel des choses se maintiendra pendant la période de temps envisagée (de la fin de 1981 à la fin de l'an 2001), c'est-à-dire que le comportement des personnes qui forment les groupes en question ne changera pas. Les décisions qui amènent certains groupes à travailler à temps plein ou à temps partiel, à prendre leur retraite ou à quitter leur province d'origine

continueront pendant longtemps de suivre les mêmes règles. Les extraits du système d'enseignement se fondent sur les prévisions des institutions elles-mêmes. Le taux d'immigration est faible, le Canada ayant récemment resserré sa politique en ce domaine. Le résultat est fiable dans la mesure où les hypothèses découlent d'un examen attentif de l'information première.¹

L'aperçu général

Le premier graphique donne un aperçu général des projections de base touchant les dentistes. Il compare leur augmentation en nombre à la croissance démographique pour la période allant de 1971 à l'an 2001. Le nombre des dentistes est pondéré pour chaque année, en gardant en ligne de compte celui des nouveaux venus (diplômés et immigrants internes) et celui des départs attribuables à la mortalité, à la retraite et à l'émigration interne.

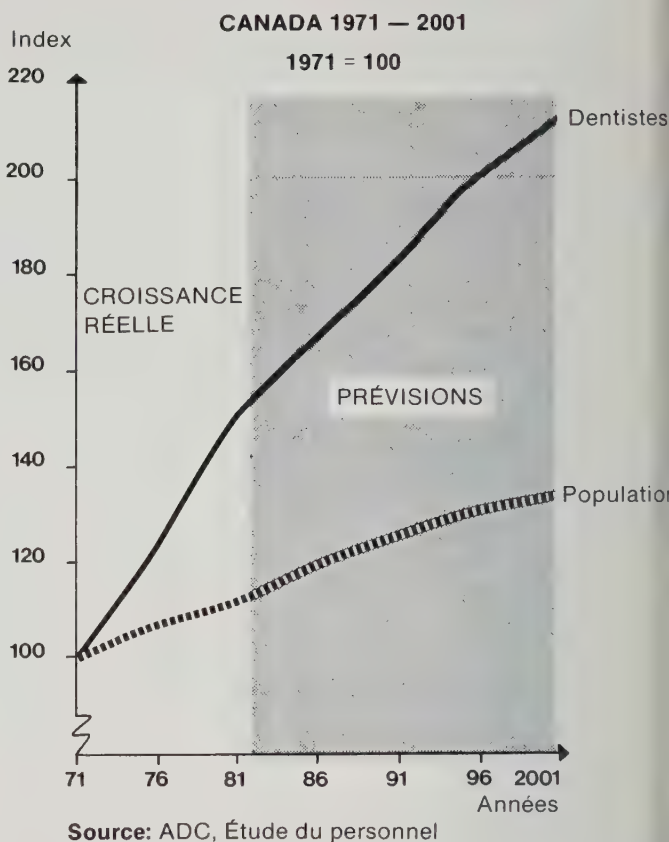
Le nombre des dentistes a augmenté à un rythme notable entre 1971 et 1981, plus précisément de 52 p. 100. Ceci est attribuable, pour une grande part, à l'augmentation en nombre des nouveaux diplômés qui sont entrés sur le marché du travail à la suite de l'expansion qu'a prise le système d'enseignement dans les années 60 et au début des années 70. Malheureusement, la croissance démographique du Canada a été beaucoup moins rapide pendant la même période de temps, elle n'a été que de 12 p. 100. Cette comparaison sommaire explique de façon simple les problèmes que les services dentaires connaissent actuellement.

Il est cependant encourageant de voir, malgré ce sombre tableau, que l'augmentation en nombre des dentistes ralentira considérablement après 1981. On prévoit que, d'ici l'an 2001, elle sera quelque peu inférieure à 40 p. 100, donc en deçà de ce qu'on a constaté au cours de la dernière décennie. Par contre, si on utilise une projection moyenne de population², on s'attend à ce que le taux de croissance démographique du Canada soit de 19 p. 100 au cours de la même période. Certes, l'augmentation en nombre des dentistes sera plus rapide, mais l'écart entre celle-ci et la croissance démographique sera moindre.

En somme, on prévoit que, dans la mesure où le nombre des nouveaux diplômés demeurera relativement le même, "l'impact", que l'augmentation des nouveaux effectifs a eu sur les ressources en personnel au cours de la dernière-décennie, s'atténuera lentement.

Le rapport dentiste/population, qui a baissé de façon accélérée entre 1971 et 1981, continuera de le faire, mais plus lentement. D'un dentiste par 2 915 de population qu'il était il y a dix ans, il est passé à un par 2 155, une baisse de 26,1 p. 100. Et il passera à un par 1 828 de population au

GRAPHIQUE 1
RAPPORT ENTRE L'AUGMENTATION EN NOMBRE
DES DENTISTES ET LA CROISSANCE DÉMOGRAPHIQUE



cours des vingt prochaines années, une autre baisse de 15 p. 100.

Les provinces

Le **graphique 1** donne à grands traits, une image qui camoufle l'évolution de la profession dans chacune des provinces. On la voit mieux dans les **tableaux 1 et 2** qui présentent en nombres et sous forme d'indices, pour la période de 1971 à l'an 2001. Les provinces qui ont un taux de croissance supérieur à la moyenne canadienne sont la Nouvelle-Écosse, la Saskatchewan, l'Alberta et la Colombie-Britannique.³

Les sources d'effectif

Comme on l'a vu, les ressources en dentistes de chaque province dépendent de l'arrivée des nouveaux diplômés du produit net des migrations, dont l'importance respective varie d'une province à l'autre. C'est ce que démontre le **graphique 2**.

L'Université Dalhousie joue un rôle important pour les provinces de l'Atlantique. Mis à part les diplômés de cette université, peu de dentistes des autres régions viennent, en règle générale, s'y installer. De fait, le nombre des départs, certaines années, dépassé celui des arrivées, produisant

1 Les dernières parties du rapport examinent ces hypothèses de plus près. Les données premières et les hypothèses qui en découlent sont présentées en entier dans un autre volume intitulé "Association dentaire canadienne: Prévision des ressources en personnel 1981-2001 — Rapport technique".

2 Statistique Canada, *Projections démographiques pour le Canada et les provinces, 1976-2001*, cat. N° 91-250, Projection N° 3.

3 Les projections montrent une baisse en nombre des dentistes Terre-Neuve et de l'Île du Prince Édouard, qui auraient besoin de nouveaux venus tous les ans pour maintenir leurs ressources en personnel. À cause du faible taux d'immigration, on n'y a cependant pas prévu la venue d'immigrants.

GRAPHIQUE 2

RESSOURCES EN PERSONNEL: MIGRATIONS DES DENTISTES AU CANADA*



Tableau 1
Nombre des dentistes actifs au Canada
de 1971 à l'an 2001

Province	Années						
	1971	1976	1981	1986	1991	1996	2001
Terre-Neuve ¹	60	103	125	115	110	105	99
Île-du-Prince-Édouard	27	42	43	39	35	33	34
Nouvelle-Écosse	208	239	306	369	427	461	479
Nouveau-Brunswick	130	166	191	210	225	241	252
Québec	1690	2013	2572	2715	2900	3116	3330
Ontario	3144	3756	4469	4940	5494	6012	6440
Manitoba	310	374	428	474	509	543	571
Saskatchewan	221	277	333	397	428	453	474
Alberta	616	814	1058	1270	1449	1625	1783
Colombie-Britannique	983	1393	1670	1760	1918	2084	2226
Canada	7389	9177	11195	12289	13495	14673	15688

¹ Voir annotation 3

Source: ADC, Étude du personnel

Tableau 2
Indice de croissance en nombre des dentistes actifs au Canada
De 1971 à l'an 2001
1971 = 100

Province	Années						
	1971	1976	1981	1986	1991	1996	2001
Terre-Neuve ¹	100	172	208	192	183	175	165
Île du Prince-Édouard	100	156	159	144	129	122	126
Nouvelle-Écosse	100	115	147	177	205	222	230
Nouveau-Brunswick	100	128	147	162	173	185	194
Québec	100	119	152	161	172	184	197
Ontario	100	119	142	157	175	191	205
Manitoba	100	121	138	152	164	175	184
Saskatchewan	100	125	151	180	194	205	214
Alberta	100	132	172	206	235	264	289
Colombie-Britannique	100	142	170	179	195	212	226
Canada	100	124	152	166	183	199	212

Source: ADC, Étude du personnel

ainsi un surplus net d'émigration interne. Le Nouveau-Brunswick note, par exemple, qu'au cours des dix dernières années, ses nouveaux dentistes sont venus principalement de l'Université Dalhousie, puis, en deuxième lieu, de l'Université de Montréal. Par contre, Terre-Neuve et l'Île-du-Prince-Édouard n'ont pas suffisamment de population francophone pour attirer en grand nombre les dentistes sortant des universités françaises du Québec.

Compte tenu de la situation, l'expansion récente de la faculté de Dalhousie se justifiera, si un plus grand nombre de nouveaux diplômés vont s'installer dans les autres provinces de l'Atlantique plutôt qu'en Nouvelle-Écosse. Ceci pourrait inverser à leur avantage les projections à la baisse du nombre des dentistes à Terre-Neuve et dans l'Île-du-Prince-Édouard, ainsi que freiner et rendre plus acceptable le taux de croissance de la Nouvelle-Écosse, qu'on prévoit supérieur à la moyenne. Pour en arriver à une répartition convenable des diplômés dans les provinces de l'Atlantique, il faudrait peut-être que l'Université Dalhousie applique des mesures particulières pour la région.

Pour ce qui est des autres provinces, le pourcentage des diplômés qui y restent dépend grandement de l'attrait qu'elles exercent sur les dentistes des autres régions. Ainsi, les nouveaux diplômés qui restent sont plus nombreux, si la province accueille plus de dentistes venant de l'extérieur qu'elle n'en "perd".

LA MOBILITÉ DES DENTISTES

En analysant les déplacements des dentistes au cours des dix dernières années, on constate qu'il y a un lien

entre l'arrivée nette des dentistes dans une province et le rapport *relatif* dentiste/population de cette province en regard des autres. Ceci vaut pour toutes les provinces, sauf le Québec. En termes simples, cela signifie que si une province voit augmenter son rapport dentiste/population à un *rythme* supérieur à celui des autres, elle verra aussi augmenter le nombre de ses immigrants internes, les autres provinces accusant une baisse correspondante.

La théorie par laquelle on calcule les déplacements sur la base des rapports relatifs dentiste/population ressemble beaucoup au principe des vases communicants. Dans la pratique, c'est cependant un peu plus compliqué, parce que les dentistes ne traitent pas tant de la situation réelle d'une province que de ce qu'ils en *perçoivent* en regard d'une autre. Et alors, leur attitude peut ne pas correspondre tout-à-fait à la réalité.

Le **graphique 3** montre, en pourcentage, la répartition des dentistes par province au cours de la dernière décennie. Les proportions varient en ce sens que les dentistes suivent les mouvements de la population en général. Celle de l'Ontario, notamment, a baissé, d'un peu plus de 42 p. 100 qu'elle était en 1971, à 40 p. 100 en 1981, bon nombre de professionnels ayant suivi à la longue les déplacements de population vers l'Alberta et la Colombie-Britannique.

La proportion des dentistes du Manitoba et de la Saskatchewan, provinces beaucoup plus petites que leurs partenaires de l'Ouest, a quelque peu baissé de 1971 à 1981, suivant ainsi la tendance de leur population à se déplacer vers l'ouest. La part de l'Île-du-Prince-Édouard a suivi les fluctuations erratiques qui ont marqué égal-

Tableau 3
Rapports dentiste/population au Canada
1971 — 2001

Province	Années						
	1971	1976	1981	1986	1991	1996	2001
Terre-Neuve	8702	5415	4686	5119	5575	5944	6369
Île-du-Prince-Édouard	4133	2814	2891	3356	3886	4255	4232
Nouvelle-Écosse	3793	3467	2801	2405	2139	2024	1978
Nouveau-Brunswick	4882	4080	3720	3550	3438	3303	3227
Québec	3567	3097	2465	2433	2333	2201	2068
Ontario	2450	2200	1930	1896	1803	1725	1670
Manitoba	3188	2731	2409	2288	2220	2089	2015
Saskatchewan	4191	3326	2941	2515	2395	2308	2234
Alberta	2643	2258	2042	1845	1763	1684	1623
Colombie-Britannique	2222	1771	1623	1631	1602	1560	1530
Canada	2915	2500	2155	2086	1992	1901	1828

Source: ADC, Étude du personnel

ent le pourcentage de la population de cette province par rapport à l'ensemble du pays. La part de la Nouvelle-Écosse a baissé quelque peu et celle du Nouveau-Brunswick est demeurée relativement la même, suivant aussi la tendance de leur population respective. Celle de Terre-Neuve a augmentée, la province ayant connu une crois-

sance démographique un peu plus prononcée au milieu des années 70.

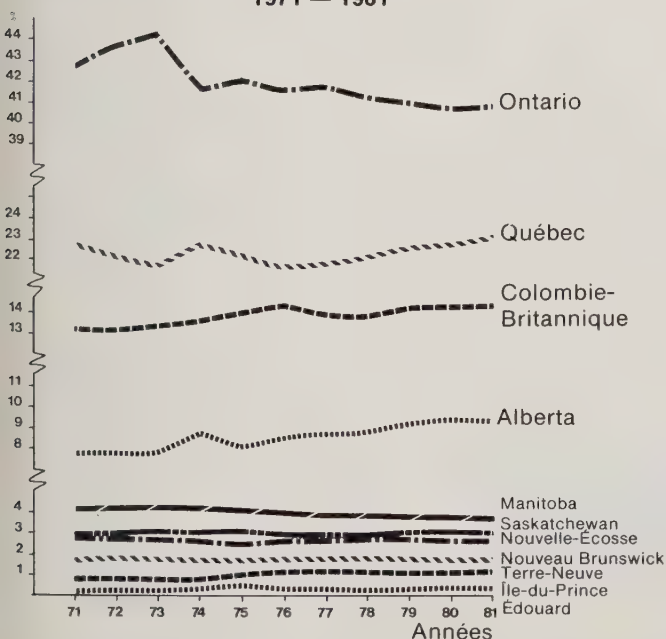
Le Québec fait exception à la règle. Le pourcentage de la population résidant dans cette province a baissé constamment au cours des dix dernières années. Néanmoins, la proportion des dentistes québécois est revenue, en 1981, à son niveau de 1971. Dans l'intervalle, la fluctuation constatée au Québec a modifié, de façon anormale mais temporaire, la proportion des dentistes des autres provinces, comme l'indiquent les sommets de l'Ontario et de la Colombie-Britannique sur le **graphique 3**. Ce serait trop facile d'expliquer en principe pourquoi la profession a subi des modifications si radicales dans les années 70 au Québec. Mais le retour au niveau de 1971, malgré une émigration interne continue, semble y indiquer la présence de certains facteurs de stabilisation, du moins pour la profession de la médecine dentaire.

En dernière analyse, à cause de la prédominance de ses éléments francophones, il semble que la situation du Québec doit être examinée séparément des autres provinces. Nous avons donc supposé que cette province continuera de perdre un certain nombre de dentistes au profit des autres régions du pays, mais que ces départs se feront moins nombreux au cours de la période de temps envisagée. L'immigration ainsi que les diplômés sortant des facultés de médecine dentaire de la province y compenseront largement toute perte de professionnels au profit des autres provinces. Quant au reste du Canada, nous avons supposé que les migrations internes suivront les tendances des rapports dentiste/population.

Les projections démographiques de Statistique Canada,

GRAPHIQUE 3
DÉPARTITION DES DENTISTES AUTORISÉS ET EXERÇANT LEUR PROFESSION, PAR PROVINCE DE RÉSIDENCE

1971 — 1981



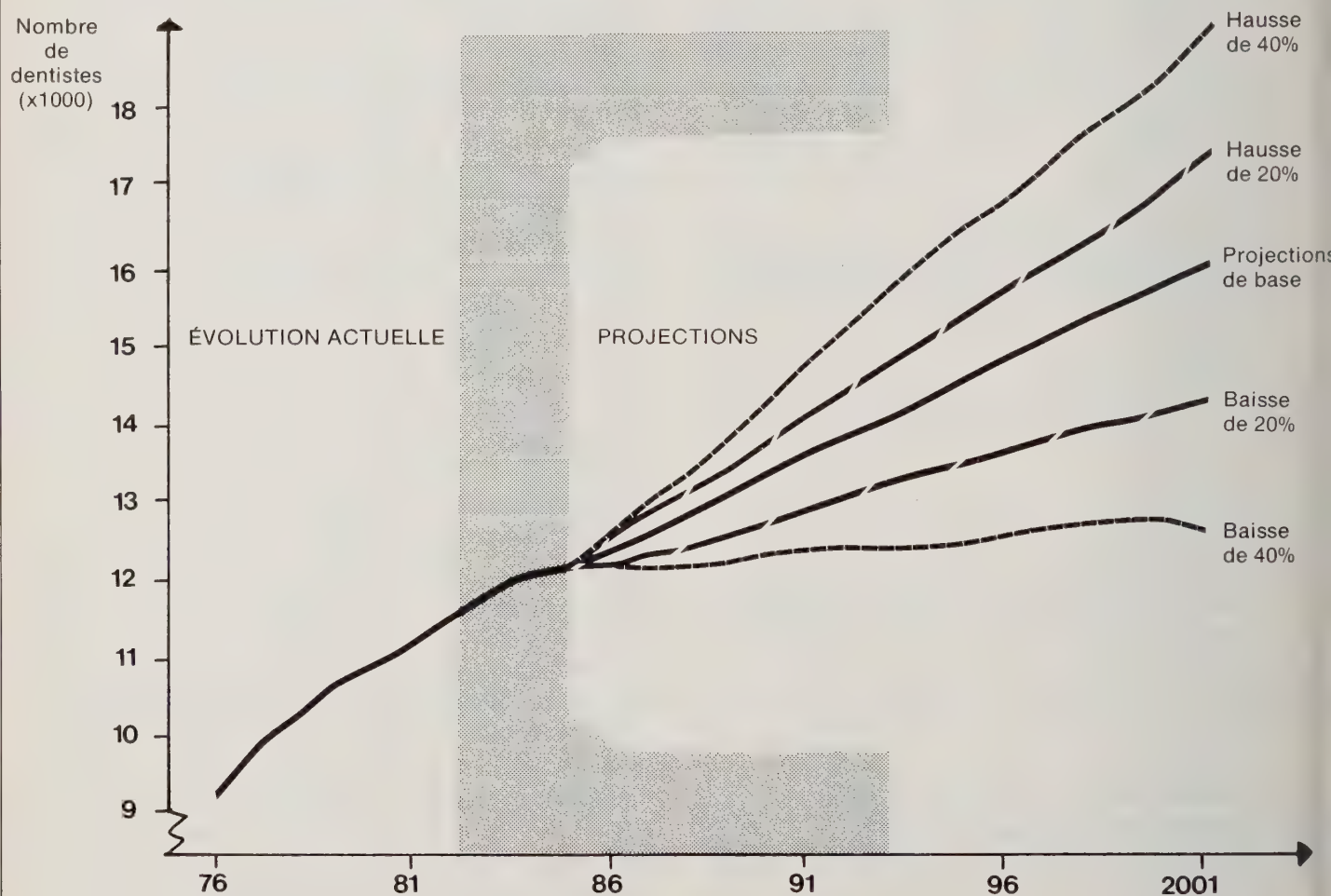
Source: ADC, Étude du personnel

Tableau 4
Répartition en pourcentage des dentistes au Canada

Province	Années			
	1971	1981	1991	2001
Terre-Neuve	0.8	1.1	0.8	0.6
Île-du-Prince-Édouard	0.4	0.4	0.3	0.2
Nouvelle-Écosse	2.8	2.7	3.2	3.1
Nouveau-Brunswick	1.8	1.7	1.7	1.6
Québec	22.9	22.9	21.8	21.2
Ontario	42.5	40.0	41.5	41.1
Manitoba	4.2	3.8	3.8	3.6
Saskatchewan	3.0	3.0	3.2	3.0
Alberta	8.3	9.4	11.0	11.4
Colombie-Britannique	13.3	14.9	14.5	14.2

Source: ADC, Étude du personnel

GRAPHIQUE 4
EFFETS DES MODIFICATIONS AU NOMBRE DES DIPLÔMÉS DES FACULTÉS CANADIENNES
SUR LES RESSOURCES EN DENTISTES, À PARTIR DE 1986



Source: ADC, Étude du personnel .

Tableau 5
Effets des modifications du nombre des diplômés
sur les ressources en dentistes en l'an 2001,
à partir de 1986

	Maritimes	Québec	Ontario	Manitoba	Sask.	Alberta	Colombie-Britannique	Canada
Modification de 40% dans toutes les facultés, à partir de 1986	±19.8%	±25.0%	±18.7%	±19.7%	±20.0%	±19.6%	±16.0%	±20.
Modification de 20% dans toutes les facultés, à partir de 1986	± 9.9%	±12.5%	± 9.3%	± 9.8%	± 9.9%	± 9.8%	± 8.0%	± 9.
Ontario, hausse de 50% à partir de 1986	**	*	+18.9%	+ 9.3%	+ 7.6%	+ 8.2%	+ 1.0%	+ 9.
Ontario, baisse de 50% à partir de 1986	**	*	-17.8%	- 8.9%	- 7.0%	- 9.1%	- 3.5%	- 9.

Effet en pourcentage sur les ressources

Faute d'information, les projections touchant le Québec supposent qu'on a changé du tout au tout le nombre annuel net des émigrants internes de la province. Si on y modifiait le nombre des diplômés, le flux des migrations pourrait changer et l'effet au Québec même serait différent.

* L'effet est minime dans les provinces de l'Atlantique.

Source: ADC, Étude du personnel

ont servi à établir celles touchant les dentistes, pré-
ment que la population continuera de se déplacer d'est
ouest, mais à un rythme plus lent que par le passé. Les
tableaux 3 et 4 montrent les résultats prévus en termes de
pport dentiste/population et de répartition des res-
sources en dentistes entre les provinces.

LES EFFETS D'UN CHANGEMENT DE VENUE: D'UNE PROVINCE À L'AUTRE, AUX NOUVEAUX DIPLÔMÉS

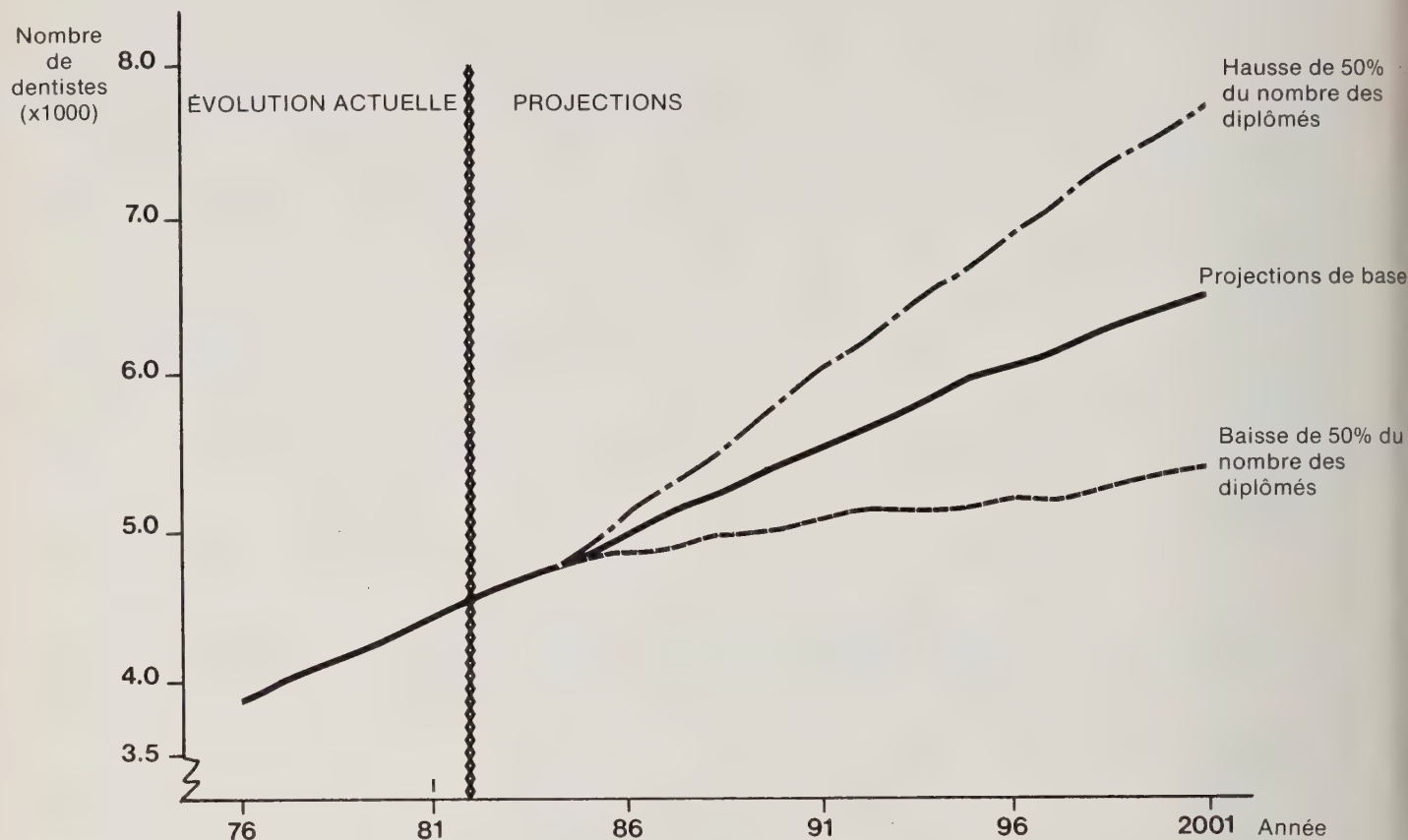
L'importance plus ou moins grande qu'on accorde,
d'une province à l'autre, aux nouveaux diplômés et
la venue de dentistes de l'extérieur pour établir les res-
sources en personnel a des implications en matière
orientations. Une mesure visant à modifier les ressources
peut être très efficace pour une province, mais pas autant
pour une autre. On le voit très bien en regardant la portée
ne peut avoir une modification au nombre des diplômés.
Le **graphique 4** montre, dans une vue d'ensemble, l'effet
l'on obtiendrait en augmentant ou en diminuant, dans
ordre de 40 p. 100 et de 20 p. 100, le nombre des diplômés
toutes les facultés de médecine dentaire du Canada, à
rtir de 1986. Une modification de 40 p. 100 entraînerait,
l'an 2001, une hausse ou une baisse des ressources en
ntistes de 20 p. 100 et une modification de 20 p. 100, une
usse ou une baisse de près de 10 p. 100.

Le **tableau 5** montre comment les provinces seraient

touchées par ces changements. Les provinces de l'Atlan-
tique ont été regroupées parce qu'elles ne sont desservies
que par une seule faculté, celle de Dalhousie. Il apparaît
nettement que des modifications de 40 p. 100 ou de 20 p.
100 causeraient des réactions fort différentes d'une pro-
vince à l'autre. L'effet serait plus prononcé là où l'on
compte davantage sur les nouveaux diplômés des facul-
tés de la province, que sur les autres ressources en person-
nel. On constate que les provinces les plus touchées se-
partir. Ce facteur de pondération est des plus importants
en Colombie-Britannique où, par exemple, une augmenta-
les moins touchées.

Les pourcentages du **tableau 5** sont aussi pondérés par
l'altération des migrations internes qui résultent des
modifications apportées au nombre des diplômés. En
somme, si ce nombre augmente, plus de dentistes sont
portés à faire leurs valises et à suivre les mouvements de
population. Par contre, s'il y a moins de diplômés, cela
améliore la situation personnelle des dentistes dans la
province d'origine et ils sont moins nombreux à vouloir
partir. Ce facteur de pondération est des plus important en
Colombie-Britannique où, par exemple, une augmenta-
tion ou une diminution de 40 p. 100 du nombre des di-
plômés de l'U.C.-B. ne modifierait les ressources en per-
sonnel que de 11 p. 100 en l'an 2001, si on ne modifiait pas
le volume des migrations internes. En effet, si la province

GRAPHIQUE 5
EFFETS DES MODIFICATIONS DU NOMBRE DES DIPLÔMÉS DE L'ONTARIO, À PARTIR DE 1986,
SUR LES RESSOURCES EN DENTISTES DE LA PROVINCE



Source: ADC, Étude du personnel

accueillait plus d'immigrés internes à la suite d'une augmentation de 40 p. 100 des promotions de toutes les facultés, l'effet à la hausse y passerait de 11 p. 100 à 16 p. 100. De même, une diminution de 40 p. 100 réduirait les déplacements des dentistes vers la province.

Si toutes les facultés du pays modifiaient de la même façon, à la hausse ou à la baisse, le nombre de leurs diplômés, l'effet sur les ressources serait le même. Il en serait cependant autrement, si les modifications, à la hausse ou à la baisse, ne touchaient qu'une seule province. Le **graphique 5** montre ce qu'il s'y produirait si l'Ontario seul modifiait le nombre de ses diplômés de 50 p. 100 à compter de 1986. Le **tableau 5** en donne le résultat par province. On a choisi l'Ontario comme exemple parce qu'elle est la seule province à accueillir des dentistes de partout et à en envoyer dans la plus grande partie du pays, et que sa production annuelle de diplômés est suffisamment grande pour en démontrer les divers effets pour l'ensemble du pays. Qu'une seule province modifie le nombre de ses diplômés, cela aura des effets dans toutes les autres.

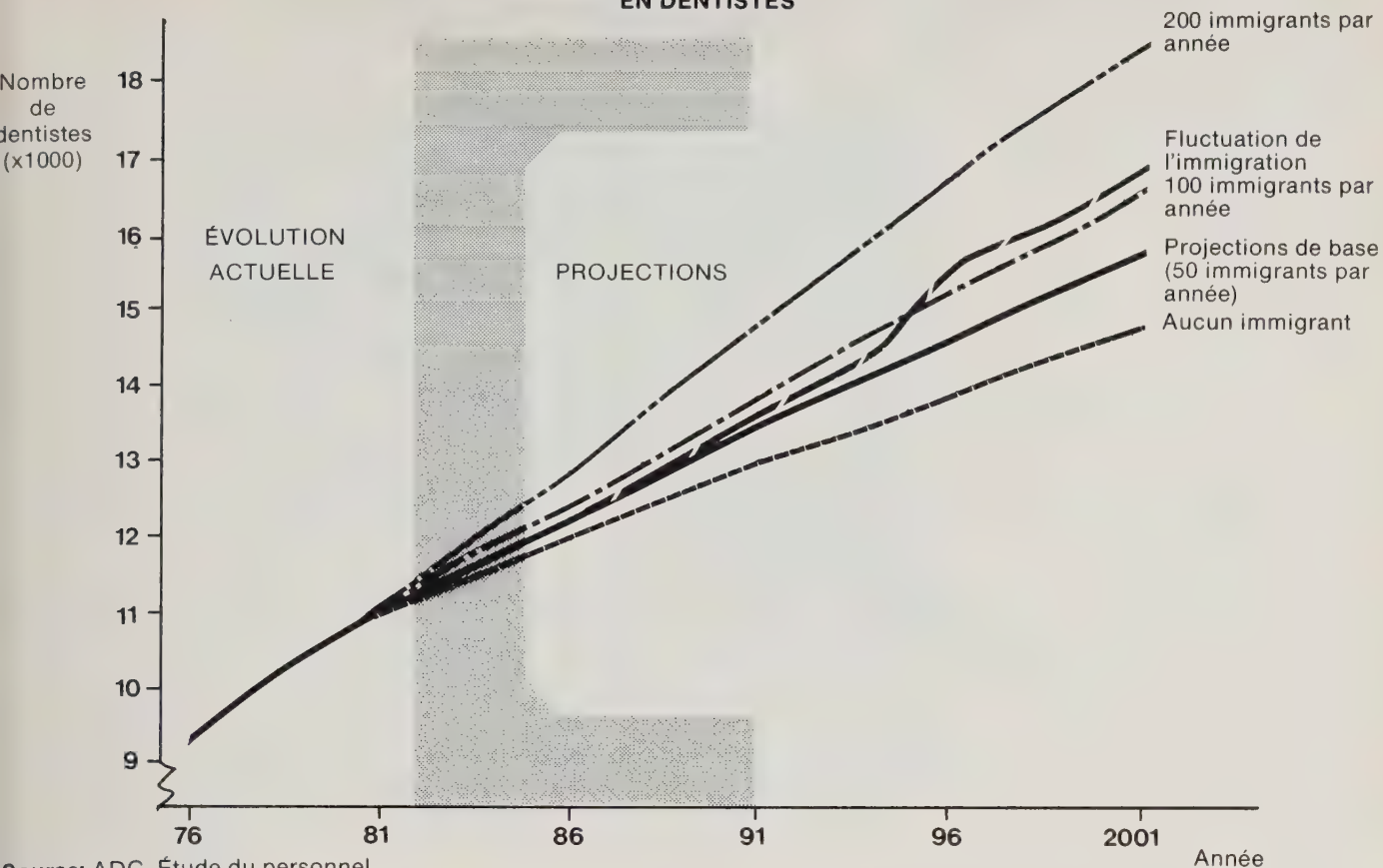
Une modification en nombre de 50 p. 100 des nouveaux diplômés de l'Ontario affecterait l'ensemble des ressources en dentistes du pays dans une proportion de 9,3 p. 100, un peu moins que ce que produirait une modifica-

tion de 20 p. 100 dans toutes les facultés. Par contre, si le nombre des arrivées et des départs demeurerait le même, la province verrait se modifier ses ressources dans une proportion de 23 p. 100 en l'an 2001.

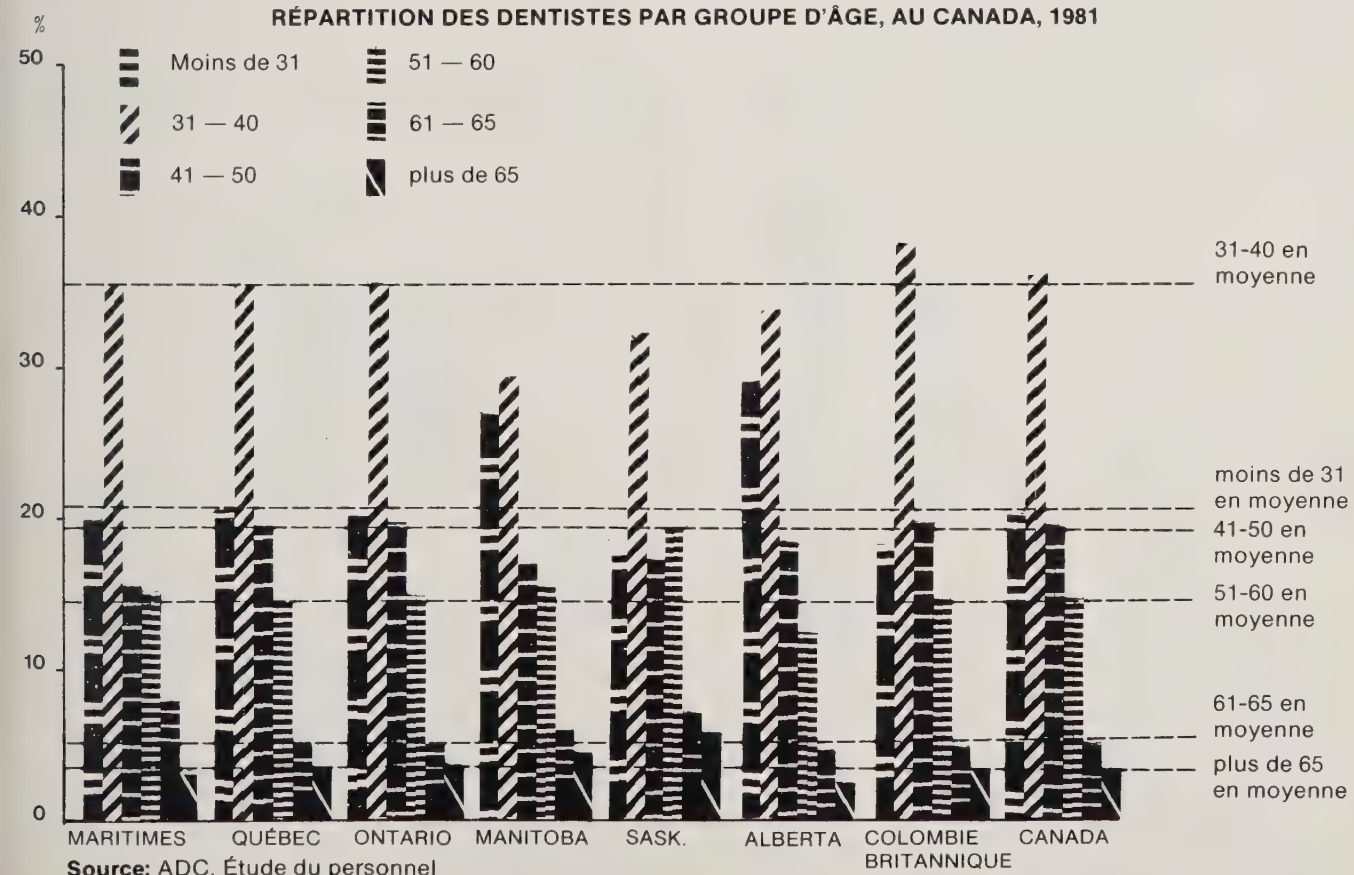
Encore une fois, ce pourcentage serait grandement pondéré par la tendance des migrations internes. Une augmentation inciterait moins de dentistes à déménager en Ontario et plus de dentistes de la province à partir. L'augmentation de 50 p. 100 ferait donc s'accroître les ressources non pas de 23 p. 100 mais de 18,9 p. 100, alors qu'une diminution, attirant davantage les professionnels de l'extérieur et retenant ceux qui voudraient partir, entraînerait une baisse des ressources de 17,8 p. 100 seulement et pas 23 p. 100.

La région de l'Atlantique serait très peu touchée par des modifications en Ontario (moins de 1 p. 100), parce que les échanges entre celle-ci et les provinces de l'Est sont faibles en regard des autres sources d'effectif. Les dentistes du Québec ont grandement contribué, au cours des dernières années, à la disponibilité du personnel en Ontario. Il est cependant difficile de prévoir comment une modification du nombre des diplômés en Ontario affecterait la situation du Québec. Les autres provinces, par contre, accueilleraient plus de dentistes de l'Ontario si on

GRAPHIQUE 6
EFFETS DE L'IMMIGRATION SUR LES RESSOURCES
EN DENTISTES

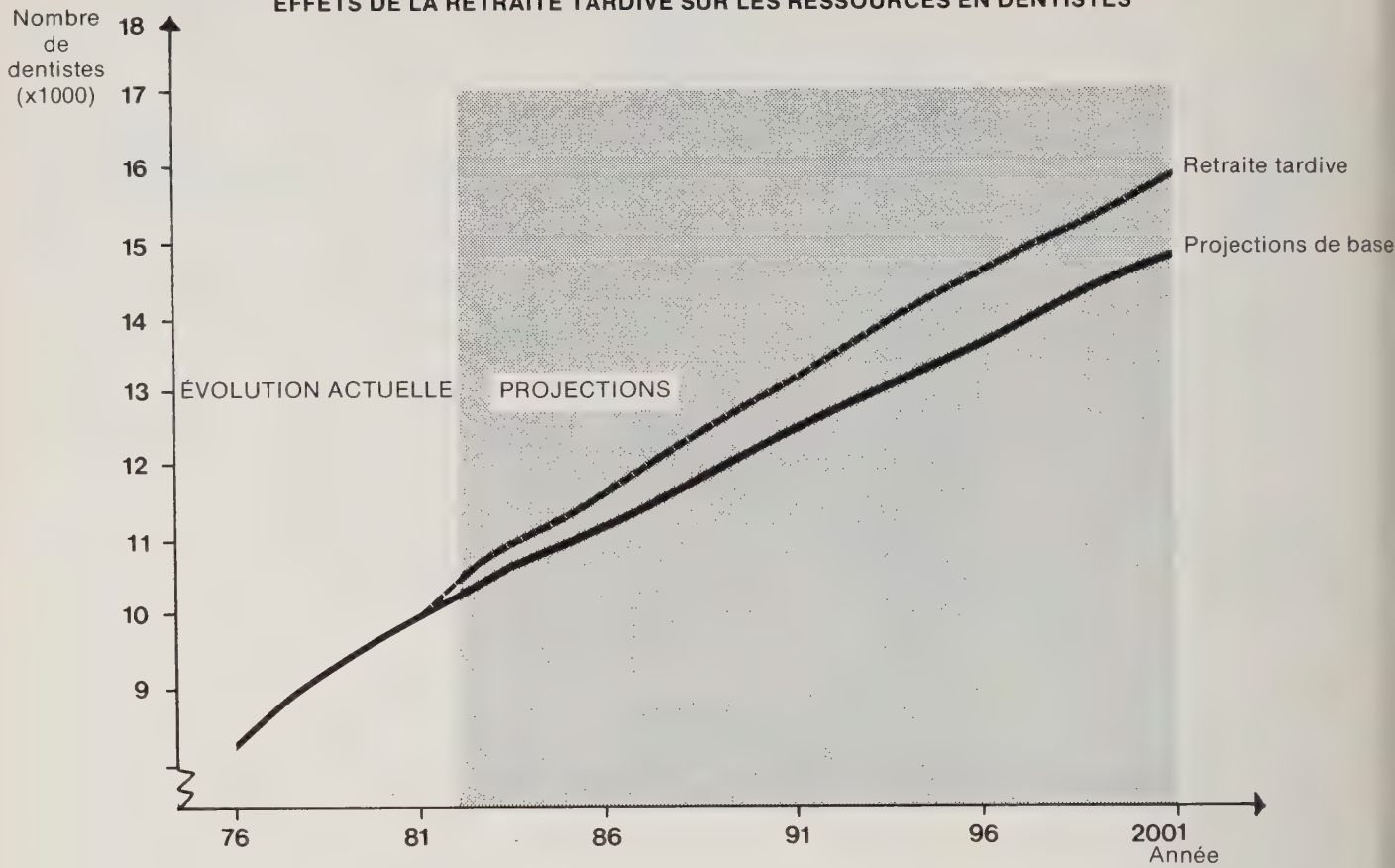


GRAPHIQUE 7
RÉPARTITION DES DENTISTES PAR GROUPE D'ÂGE, AU CANADA, 1981



GRAPHIQUE 8

EFFETS DE LA RETRAITE TARDIVE SUR LES RESSOURCES EN DENTISTES

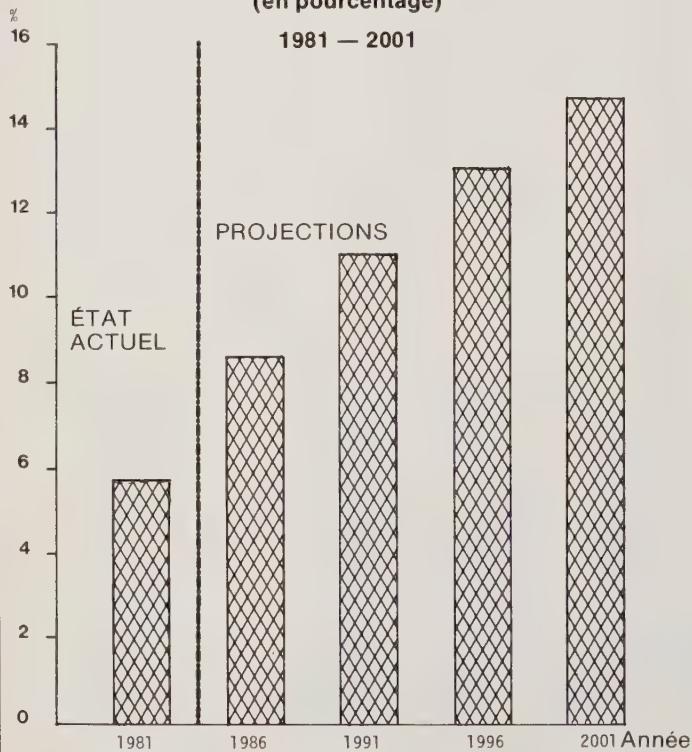


Source: ADC, Étude du personnel

GRAPHIQUE 9

LA PLACE OCCUPÉE PAR LES FEMMES DENTISTES (en pourcentage)

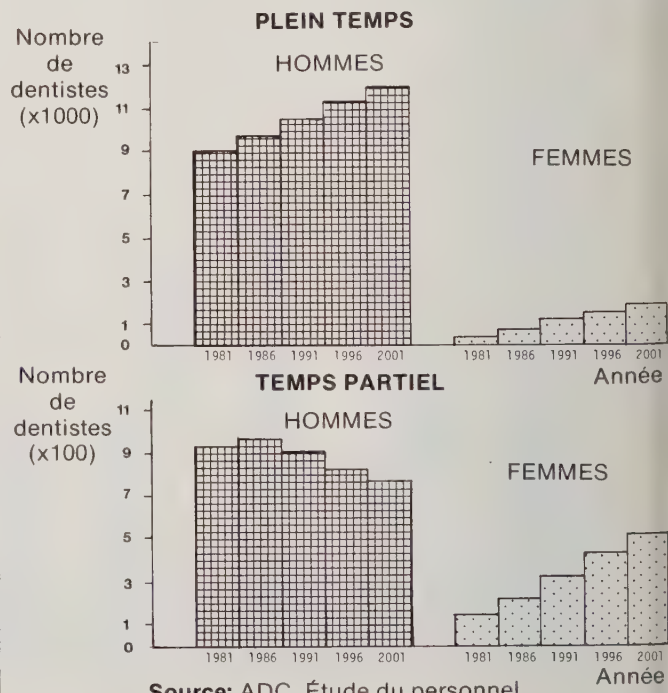
1981 — 2001



Source: ADC, Étude du personnel

GRAPHIQUE 10

PRÉVISION DU NOMBRE DE DENTISTES EN PRATIQUE PRIVÉE PAR SEXE, PLEIN TEMPS ET TEMPS PARTIEL



Source: ADC, Étude du personnel

Tableau 6
Projections de base
dentistes travaillant à plein temps par province

Année	Maritimes	Québec	Ontario	Manitoba	Sask.	Alberta	C.-B.	Canada
1981	585	2,347	4,071	381	294	971	1,542	10,191
1986	647	2,475	4,509	423	354	1,172	1,626	11,206
1991	709	2,652	5,039	456	382	1,346	1,779	12,363
1996	748	2,858	5,537	488	407	1,516	1,936	13,490
2001	772	3,048	5,940	516	427	1,669	2,077	14,449

Source: ADC, Étude du personnel

augmentait le nombre des diplômés, et accuseraient une perte "nette" de leurs propres dentistes dans le cas contraire.

Le facteur immigration

Nous prévoyons que le nombre de dentistes immigrant au Canada ira en diminuant, le gouvernement ayant resserré sa politique d'immigration en 1982. Le nombre des dentistes américains venant d'écoles reconnues et admis au Canada a baissé depuis 1979. Ils doivent désormais passer non seulement l'examen écrit du CNED mais aussi l'examen en clinique.

Nous avons donc supposé que le nombre des immigrants sera de 50 seulement par année (la moyenne a été de 50 entre 1971 et 1979). Nous avons émis la même hypothèse (50 par année) en regard de l'émigration.

Le **graphique 6** fait voir les effets de l'immigration, selon qu'on l'augmente à 100 ou 200 dentistes par année, qu'on la réduise à zéro, ou qu'on l'augmente tous les cinq ans à 100 par année et la réduise ensuite à 100 en 1996. Si on élimine l'immigration ou qu'on l'augmente à 100, cela affectera les ressources en dentistes dans une proportion de 5,8 p. 100, en l'an 2001. Si on l'augmente à 200, cela aura un effet beaucoup plus grand, 17,4 p. 100 au bout de vingt ans; mais, comme l'immigration n'a jamais atteint ce sommet, il est plus vraisemblable d'envisager les effets d'une fluctuation. Si on augmente graduellement le nombre des immigrants à 150, les ressources dépasseront les projections de base de 10,2 p. 100 en 1996 et, si on la réduit ensuite à 100, la proportion ne sera que de 6,0 p. 100 en l'an 2001. En fin de compte, si la politique d'immigration n'avait pas été modifiée pour réduire le nombre des immigrants de près de la moitié, les ressources en dentistes auraient, au bout de vingt ans, dépassé de cinq à six pour cent les projections actuelles.

Si le résultat net de la migration externe nous donne une projection de base de zéro pour l'ensemble du Canada, il n'en est pas de même pour toutes les provinces. Les immigrants quittent celles-ci dans la même proportion que la population en général. Par contre, les immigrants sont

surtout attirés par le Canada central et les provinces de l'Ouest, puis de façon bien secondaire par la région de l'Atlantique. Par rapport à leurs effectifs respectifs, le Manitoba et la Saskatchewan en particulier ont accueilli un grand nombre de dentistes venus des autres parties du monde. C'est donc dans ces provinces que le resserrement de l'immigration se fera sentir le plus.

A quel rythme vieillissons-nous?

Comme le montre le **graphique 7**, 50 p. 100 des dentistes actuels ont moins de 40 ans. Et il y a peu de différence d'une province à l'autre. Ceux de l'Île-du-Prince-Édouard, de la Nouvelle-Écosse et de la Saskatchewan sont un peu plus vieux, et ceux de l'Alberta et du Manitoba, un peu plus jeunes. La "jeunesse" relative de la profession est attribuable naturellement au grand nombre de nouveaux dentistes qui, pour la plupart, n'avaient pas 30 ans au moment de recevoir leur diplôme.

La plupart des moins de 40 ans n'auront pas pris leur retraite en l'an 2001. On ne peut donc pas prévoir que l'attrition (retraites et mortalités) jouera un rôle important dans la réduction des ressources professionnelles. Par ailleurs, quelque 10 000 nouveaux diplômés viendront arrondir et rajeunir les effectifs au cours des vingt prochaines années.

Les statistiques dont on dispose⁴ indiquent qu'en moyenne, les dentistes ont tendance à prendre leur retraite après 32 années de pratique. Un sondage révèle cependant que la plupart d'entre eux retarderaient le moment de la retraite, s'ils se trouvaient dans une situation financière difficile. Le **graphique 8** montre les effets qu'aurait une retraite tardive de cinq ans sur les effectifs. Ceux-ci augmenteraient d'environ 7 p. 100 en l'an 2001.

Le même sondage indique que les dentistes prendraient une retraite anticipée uniquement pour des raisons de santé, ou s'ils gagnaient le gros lot. Étant donné les probabilités, du moins dans le deuxième cas, il est peu plausible qu'on voie l'âge de la retraite baisser de façon générale.

⁴ Sondages récents faits par R. K. House et Associés sur l'économie de certaines provinces.

Tableau 7
Projections de base
hygiénistes dentaires
(Plein temps ou équivalent)

Provinces de												
Année	T.-N.	Î.-P.-É.	N.-É.	N.-B.	Maritimes	Québec	Ontario	Man.	Sask.	Alberta	C.-B.	Canada
1981	12	18	122	43	195	615	1408	171	46	452	358	3245
1986	19	28	194	102	343	1389	2214	270	64	587	440	5307
1991	27	42	284	178	531	2110	3010	358	81	698	524	7312
1996	35	54	367	247	703	2789	3773	440	97	800	603	9205
2001	42	67	448	317	874	3450	4507	516	111	884	672	11014

Source: ADC, Étude du personnel

L'élément féminin

Le nombre de femmes dentistes a augmenté au cours de la dernière décennie au Canada. Ceci nous a amenés à nous demander si elles se comportaient différemment de leurs collègues masculins. Selon notre étude, elles ne prennent pas leur retraite à un âge différent, mais elles font moins d'heures de travail et, chez les plus jeunes, travaillent souvent à titre d'associées.

Cette tendance revêt une certaine importance, si on exprime les ressources en termes de dentistes disponibles à plein temps pour la pratique privée. Elle aurait de plus grands effets, si le nombre de femmes dentistes augmentait plus rapidement que ce qui a été prévu dans les projections de base, c'est-à-dire qu'il sera égal à ce qu'il a été ces derniers temps.

Le **graphique 9** montre, en pourcentage, la place de plus en plus grande que les femmes prendront dans la profession d'ici l'an 2001. En 1981, elles formaient 5,8 p. 100 de la

profession. En l'an 2001, cette proportion passera à 14 p. 100. Le **graphique 10** établit le rapport entre le nombre des femmes et celui des hommes, qui travailleront, à temps partiel ou à plein temps, dans la pratique privée. Chez les hommes, le travail à temps partiel diminuera, les plus vieux prenant une pleine retraite et cédant la place aux plus jeunes. Chez les femmes, c'est le contraire qui se produira, celles qui travaillent à temps partiel réduisant leurs heures de travail pour vaquer à d'autres travaux. Toutefois, la proportion gardée, le nombre de femmes travaillant à temps partiel augmentera presque autant que celui des femmes travaillant à plein temps.

Le **tableau 6** montre, en équivalence et par province, le nombre de dentistes qui travailleront à plein temps dans la pratique privée d'ici l'an 2001. De 88 p. 100 à 92 p. 100 de l'effectif des provinces ont été convertis en équivalents à plein temps, en 1981. Cette proportion ne changera pas beaucoup d'ici l'an 2001, surtout parce que le nombre de

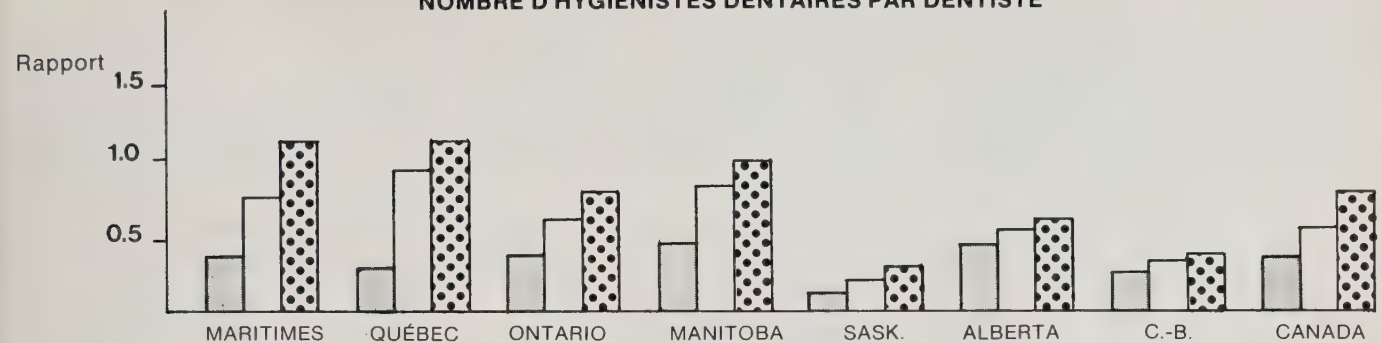
Tableau 8
Projections de base
assistantes dentaires agréées
(Plein temps ou équivalent)

Provinces												
Année	T.-N.	Î.-P.-É.	N.-É.	N.-B.	Maritimes	Québec	Ont.	Man.	Sask.	Alberta	C.-B.	Canada
1981	22	31	99	35	187	399	1310	267	352	926	1622	5059
1986	41	59	246	73	419	360	2258	501	663	1333	2489	8024
1991	55	80	374	115	624	349	3129	705	937	1735	3351	10829
1996	70	99	493	154	816	360	4001	902	1199	2158	4260	13696
2001	83	119	613	192	1007	360	4830	1094	1452	2554	5149	16446

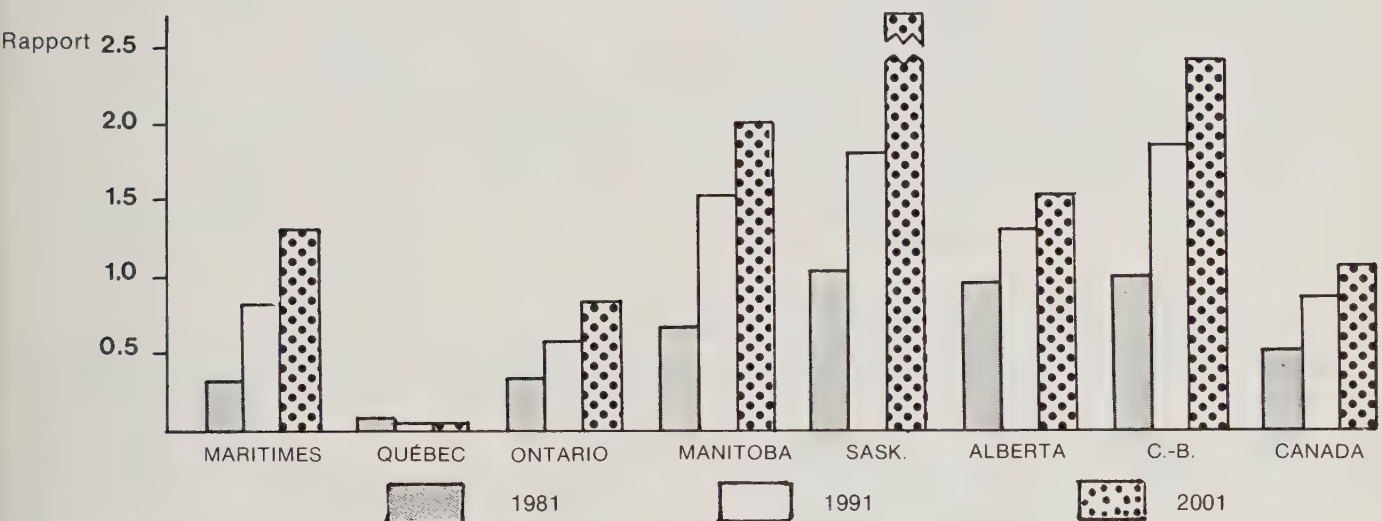
Source: ADC, Étude du personnel

GRAPHIQUE 11

PROJECTIONS DU NOMBRE DES HYGIÉNISTES ET ASSISTANTES DENTAIRES PAR DENTISTE
(TEMPS PLEIN OU ÉQUIVALENT)
NOMBRE D'HYGIÉNISTES DENTAIRES PAR DENTISTE



NOMBRE D'ASSISTANTES DENTAIRES PAR DENTISTE



Source: ADC, Étude du personnel

dentistes travaillant à plein temps en dehors de la pratique privée, dans les organismes du gouvernement, les hôpitaux ou les universités, augmentera d'un modeste un pour cent par année.

Hygiénistes et Assistantes dentaires agréées: Composition l'équipe des services dentaires

Naturellement, les dentistes travaillent de moins en moins seuls. Les hygiénistes et les assistantes agréées occupent maintenant une place importante dans l'équipe des services dentaires. Les **tableaux 7 et 8** montrent, en équivalents à plein temps, le nombre des hygiénistes et des assistantes qui seront disponibles d'ici l'an 2001. Le **graphique 11** fait voir le rapport d'hygiénistes* et d'assistantes* par dentiste*. Les perspectives sont plutôt optimistes.

Depuis onze ans, le nombre des diplômés des services auxiliaires a augmenté de 400 p. 100 à 500 p. 100 au pays⁵!

Plein temps et équivalent.

Ceci comprend les diplômées des institutions post-secondaires, agréées ou pas, à l'échelle du pays. Elles sont cependant toutes reconnues par la province où elles ont reçu leur formation.

L'élan donné, dans les années 70, à la formation de ces personnes, entraînera une augmentation rapide de l'effectif. En l'an 2001, le nombre des hygiénistes* par dentiste* sera passé de 0,32 qu'il est actuellement à 0,76 par année, et celui des assistantes dentaires* de 0,50 à 1,13.

Les statistiques de bien des régions du pays font voir qu'on a de plus en plus recours dans le cabinet du dentiste, aux services d'auxiliaires qui ont reçu une formation collégiale. Elles indiquent aussi que l'assistante dentaire passe 30 p. 100 de son temps à poser des actes qui peuvent être facturés, alors que l'hygiéniste y consacre 90 p. 100 de son temps. Ceci semble indiquer que la pratique dentaire peut augmenter sa productivité plusieurs fois. Il faut se demander, cependant, si la demande en services sera suffisante pour permettre aux dentistes de continuer à engager les auxiliaires en plus grand nombre.

La situation varie, évidemment, d'une province à l'autre. Dans les provinces de l'Atlantique, au Québec et au Manitoba, le nombre d'hygiénistes par dentiste sera supérieur à la moyenne, alors que, pour les assistantes den-

* En équivalents à plein temps.

taires, cette supériorité en nombre se manifestera dans les provinces de l'Atlantique et celles de l'Ouest. L'écart s'explique du fait que les ressources en auxiliaires augmentent beaucoup plus rapidement que celles en dentistes.

Il faut cependant prendre garde. Les projections se fondent sur des données hypothétiques établies à partir des informations statistiques qui étaient disponibles mais dans certaines régions, celles-ci étaient très minces.

Nous présumons, par exemple, que 5 p. 100 des assistantes dentaires du pays quitteront leur emploi peu de temps après avoir reçu leur diplôme pour devenir hygiénistes, sauf en Ontario où la formation en hygiène dentaire continuera d'être accessible aux assistantes dentaires agréées seulement. Voilà pourquoi, dans cette province, le nombre des assistantes quittant la profession ne représente pas 5 p. 100 des nouveaux diplômés, mais se compare au nombre d'hygiénistes produits tous les ans. En conséquence, le rapport assistants/dentiste y sera plus faible que dans les autres provinces, même si c'est elle qui a augmenté le plus le nombre d'assistantes dentaires sortant de ses écoles. Enfin, si les assistantes changeaient d'emploi en plus grand nombre que ne le laissent prévoir les informations disponibles, les ressources diminueraient d'autant.

Les auxiliaires ont tendance à "quitter" leur emploi pour élever leur famille et à le reprendre plus tard. Ceci s'applique davantage aux assistantes qu'aux hygiénistes. Une série d'informations successives indique, cependant, que les hygiénistes le font de moins en moins; ceci se vérifie dans les études portant sur le comportement général de la femme au travail. Le **graphique 12** montre quelle serait l'évolution des ressources en personnel, si les auxiliaires prenaient leur retraite au même moment que les femmes dentistes et ne quittaient pas les rangs pour les rejoindre après quelques années. Les ressources en hygiénistes augmenteraient de 10,5 p. 100 et celles en assistantes dentaires, de 19,7 p. 100, en l'an 2001.

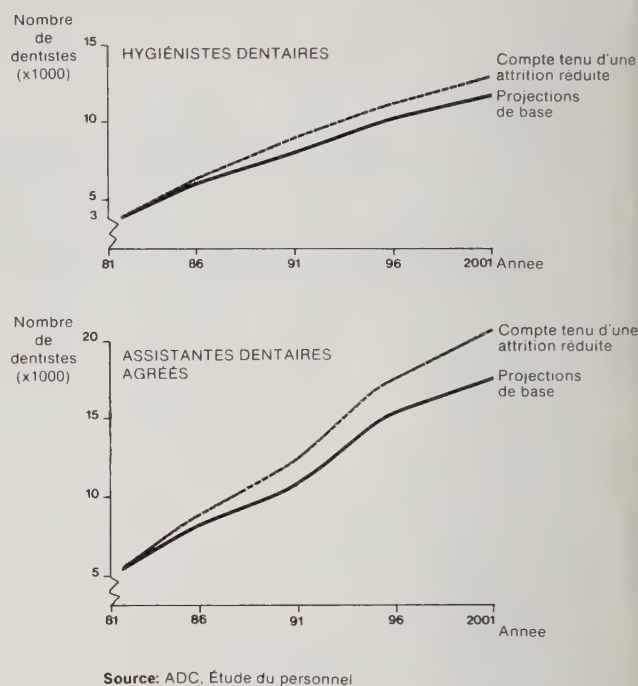
Il est évident que, compte tenu du rendement de plus en plus grand des institutions d'enseignement, les ressources en auxiliaires augmenteront rapidement. Une information plus complète permettrait d'en indiquer la mesure précise.

CONCLUSIONS

Les projections de base, qui tracent les tendances de l'avenir jusqu'en 2001, indiquent que la profession devra toujours affronter des pressions soutenues. Les ressources en dentistes augmenteront d'environ 40 p. 100 au cours des vingt prochaines années, tandis que la population s'accroîtra plus lentement.

Le personnel est puisé à diverses sources — maisons d'enseignement et produit net d'immigrants venus d'autres provinces ou d'autres pays, — qui ont chacune une portée différente d'une province à l'autre. Tout changement d'orientations, mis de l'avant pour hâter le redressement

GRAPHIQUE 12
EFFETS DE L'ATTRITION DU PERSONNEL DENTAIRE FÉMININ SUR LES RESSOURCES EN AUXILIAIRES DIPLÔMÉES



de la profession, doit inévitablement garder en ligne de compte les répercussions qu'il aura dans les régions et provinces.

De tels changements ont déjà aidé à modérer la croissance des ressources en dentistes. Ainsi en est-il du récemment apporté récemment à la politique d'immigration qui, selon les prévisions, réduira les ressources de cinq à six pour cent d'ici l'an 2001.

Ceux qui ont à prendre les décisions doivent également garder à l'esprit que les effectifs actuels sont trop jeunes pour compter sur les retraits d'activité, afin de freiner encore davantage l'augmentation des ressources. Si les temps sont durs économiquement, la retraite se fera vraisemblablement attendre. Comme, selon toute attente, le secteur public grossira lentement, on ne prévoit pas de "d'exode" important des dentistes, de la pratique privée vers les universités ou les organismes gouvernementaux. Une proportion de 91 à 92 p. 100 de toutes les ressources du pays continuera d'être convertie, pendant la période envisagée, en termes d'effectif disponible à plein temps pour la pratique privée.

Étant donné tous ces facteurs, les administrateurs auront des décisions difficiles et complexes à prendre en matière d'orientations. L'étude a permis d'examiner un grand nombre de possibilités. L'examen des politiques en matière d'orientation. L'étude a permis d'examiner un aspects touchant l'équipe des services dentaires. Il faudra aussi, être attentif à l'interaction des politiques touchant la demande et les services.

La campagne du Mois national de la santé dentaire

Les préparatifs de la prochaine campagne du Mois national de la santé dentaire, en avril, sont maintenant terminés.

Cette année, le thème est: "Sourire à pleines dents — Avril est le Mois national de la santé dentaire; Smile Canada — April is National Dental Health Month."

On peut maintenant se procurer des fiches et des collants portant le thème officiel en français et en anglais ainsi que le portrait des deux adolescents de la dernière campagne. Les fiches se vendent 150\$ les mille et les collants, 40\$ les mille également.

On peut aussi obtenir des macarons du MNSD — le thème de la campagne y est abrégé — en s'adressant à l'Association canadienne des hygiénistes dentaires, au soin de Joanne Davis, 14310 80th Street, Apt. 1, Edmonton (Alberta) T5C 1L6. Les macarons coûtent 25\$ les cent.

On aura soin de noter qu'il faut commander au moins mille affiches et collants et au moins cent macarons.

Pour 1983, la pochette de planification comprend neuf parties. La première, "Comment planifier votre programme général," donne des conseils sur la manière de rendre la campagne efficace du début à la fin. La deuxième, "Publicité," contient des communiqués de presse et fournit des idées touchant les relations avec les médias. Cette année, la pochette offre 4 articles de journaux qui peuvent être distribués à la presse locale. Ces articles couvrent divers sujets comme la dentisterie pour les gens âgés et la peur que le dentiste peut inspirer aux enfants.

Les dentistes qui seront invités à prononcer des conférences durant le Mois national de la santé dentaire trouveront des idées utiles dans les "Suggestions pour les orateurs" ou les

"Discours." Une nouvelle partie ajoutée cette année comprend des statistiques et des données qui pourront servir au cours des entrevues ou pour répondre aux questions posées par le public.

Les autres parties touchent à la documentation disponible comme les films et les publications sur l'hygiène dentaire. Les principales activités de la campagne 1982 s'y trouvent résumées.

La pochette contient encore une reproduction en blanc et noir de l'affiche ainsi qu'une feuille détachable du Guide alimentaire canadien. Elle

contient également les dernières publications de l'Association dentaire canadienne en matière d'hygiène dentaire: "La santé dentaire grâce à une bonne alimentation," "Vous fumez? faites-vous examiner la bouche," "Souffrez-vous de périodontie?" "Pratiques d'hygiène pour garder une bouche saine" et "Menace pendant le sommeil!"

La pochette de planification de la campagne du MNSD 1983 est gratuite pour tous les professionnels et les éducateurs qui s'intéressent à la santé. On l'obtient en s'adressant au siège social de l'ADC à Ottawa.

Erratum

Dans le numéro de décembre 1982 du Journal, un erreur s'est glissée dans le rapport de l'assemblée annuelle du Conseil d'administration de l'ADC, plus précisément dans le chapitre des CDSPI. À la page 782, le premier paragraphe de la troisième colonne aurait dû se lire comme suit:

Les CDSPI ont annoncé des changements touchant l'assurance de la

responsabilité civile professionnelle. À compter du 1^{er} janvier 1983, les assurés pourront se procurer une assurance excédant la garantie de base de 1 000 000\$. La garantie maximale annuelle pourra être portée à 6 000 000\$ pour ceux qui le désirent. La garantie de base de 1 000 000\$ coûtera 160\$, tandis que la garantie supplémentaire coûtera 28,75\$ de plus par année.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 décembre 1982.

<i>Fonds d'actions ordinaires</i>	\$62.1959
<i>Fonds à revenu fixe</i>	\$33.8400
<i>Fonds garanti</i>	\$25.1782
<i>Fonds de placement</i>	\$12.8708

L'avoir total (valeur marchande) du régime s'élevait à \$33,686,422.

Au 30 novembre 1982, les chiffres du mois précédent étaient les suivants:

<i>Fonds d'actions ordinaires</i>	\$58.8945
<i>Fonds à revenu fixe</i>	\$32.9995

<i>Fonds garanti</i>	\$24.9568
<i>équilibré</i>	\$12.3247

L'avoir total (valeur marchande) du régime s'élevait à \$32,778,000.

Pour de plus amples renseignements, veuillez écrire à l'adresse suivante: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3, ou appeler le service de renseignements du CDSPI en composant 1-800-268-5418 (appel sans frais pour l'Ouest canadien, les Maritimes et l'Ontario où le code est 807 seulement), 1-800-268-3411. (appel sans frais pour le Québec et l'Ontario sauf où le code est 807), et 497 7117 (Région métropolitaine de Toronto).

Quand vous désirez augmenter votre garantie Invalidité

Quel est le régime le plus avantageux ?

Si vous avez souscrit une assurance Invalidité prolongée il y a cinq ou dix ans ou plus et que vous n'avez pas augmenté vos garanties depuis, votre niveau de vie n'est plus convenablement protégé. L'assurance a été minée par l'inflation.

Vous pouvez vous procurer le supplément qui vous manque en vous adressant à un assureur. Ou vous pouvez opter pour l'assurance Invalidité offerte aux membres de la profession par le régime d'assurance des dentistes du Canada. La question se pose toutefois de savoir quel est le régime le plus avantageux.

La table ci-dessous présente la prime annuelle payable de 45 ans à 65 ans pour un supplément de \$ 1 000 par mois d'assurance Invalidité, d'après les tarifs donnés par le RADC et une grande compagnie d'assurance.*

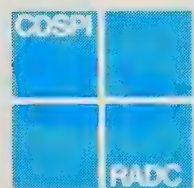
Prime annuelle

Age	RADC	Assureur
45	\$ 300,00	\$ 566,80
46	300,00	566,80
47	300,00	566,80
48	300,00	566,80
49	300,00	566,80
50	383,10	566,80
51	383,10	566,80
52	383,10	566,80
53	383,10	566,80
54	383,10	566,80
55	437,30	566,80
56	437,30	566,80
57	437,30	566,80
58	437,30	566,80
59	437,30	566,80
60	477,40	566,80
61	477,40	566,80
62	477,40	566,80
63	477,40	566,80
64	477,40	566,80
Prime totale payée en 20 ans	\$ 7 989,00	\$ 11 336,00

Le coût n'est évidemment pas le seul élément à considérer. Mais avant de payer un supplément de cette importance, essayez de connaître les éventuels avantages que vous en tirerez.

N'hésitez pas à nous appeler pour plus de renseignements : nous sommes à votre service.

* Les tarifs indiqués sont ceux offerts au 1^{er} mai 1982 pour un dentiste de 45 ans demandant une indemnité mensuelle de \$ 1 000 jusqu'à 65 ans, avec une période d'attente de 30 jours. Les contrats diffèrent et les tarifs peuvent changer.



**Le régime
d'assurance
des dentistes
du Canada**

Service d'assurance personnalisé. Pour tous renseignements sur vos assurances, veuillez appeler à n'importe quel moment le service de renseignements du CDSPI :

1.800.268.54.18 Provinces de l'Ouest, provinces atlantiques
région de l'Ontario avec l'indicatif régional

1.800.268.34.11 Québec et Ontario, sauf pour la
région avec l'indicatif régional 807

497.71.17 Toronto et environs

En bref —

Il est probable que Terre-Neuve disposera d'une nouvelle loi dentaire au début du printemps. Cette loi permettra aux ordres professionnels dentaires de réglementer les auxiliaires dentaires et modifiera probablement l'organisation du Conseil dentaire de Terre-Neuve. Présentement, le conseil se compose de quatre dentistes et d'un ministre adjoint de la Santé qui est nommé d'office.

Depuis quelque temps, l'Association dentaire de Terre-Neuve se plaignait de la loi dentaire actuelle adoptée en 1968, surtout parce que plusieurs de ses articles ne s'appliquent plus aux conditions présentes. Aussi, il y a cinq ans, a-t-on demandé au gouvernement provincial de préparer une autre loi. On prévoit que le ministre de la Santé présentera une version préliminaire de la nouvelle loi à la Chambre d'Assemblée de Terre-Neuve à la fin du mois.

♦♦♦♦♦♦♦♦

Le Dr Marc Boucher, de Québec, a été élu président de l'Ordre des dentistes du Québec. Le nouveau vice-président de l'ODQ est le Dr Michel Mahjah, de Montréal. Le président détient un mandat de quatre ans et le vice-président, un mandat d'un an. Le Dr Boucher est membre du Conseil d'administration de l'ODQ depuis dix ans.

♦♦♦♦♦♦♦♦

La Loi dentaire du Nouveau-Brunswick est maintenant complètement rédigée.

De l'avis du Dr W.G. Thompson, secrétaire général de l'Association dentaire du Nouveau-Brunswick, cette loi est la seule du genre au Canada. Elle contient des règlements pour les dentistes, les hygiénistes et les assistants dentaires. Aucune autre loi provinciale n'établit en un seul texte des règlements pour les praticiens et les auxiliaires.

Le texte définitif de la Loi dentaire sera soumis à l'Assemblée législative

du Nouveau-Brunswick le printemps prochain.

♦♦♦♦♦♦♦♦

En 1980, il y avait, au Canada, 646 personnes par médecin, comparative-ment à 837 personnes en 1970. C'est ce que révèle le Répertoire de la main-d'oeuvre sanitaire au Canada récemment publié par Mme Monique Bégin, ministre de Santé et Bien-être social Canada. Le répertoire indique encore qu'en 1980, il y avait 37 287 médecins exerçants au Canada, sans compter les internes et les résidents, alors qu'en 1970, il y en avait 25 656. C'est en Colombie-Britannique que l'on trouve le rapport population-médecin le plus bas avec 558 personnes par médecin, tandis que celui des Territoires du Nord-Ouest est le plus élevé avec 1 097 personnes par médecin.

♦♦♦♦♦♦♦♦

Lors de son banquet annuel qui a eu lieu à Edmonton en juin dernier, l'Association des anciens étudiants en dentisterie de l'Université de l'Alberta a honoré le Dr Sperry Fraser en lui attribuant une récompense pour ses réalisations exceptionnelles.

Né à Norwood (Ontario) en 1899, le Dr Fraser exerce la dentisterie depuis 51 ans, soit depuis l'obtention de son diplôme à l'Université de l'Alberta en 1930 (diplôme de première catégorie en dentisterie). Plus tard, il obtenait d'autres diplômes du Collège américain des dentistes et du Collège royal des dentistes.

Il est membre originaire de l'Académie canadienne de prosthodontie, ancien président de la Société de prosthodontie de la Côte du Pacifique et de l'Association des anciens élèves en dentisterie de l'Alberta, et professeur émérite de l'Université de l'Alberta.

♦♦♦♦♦♦♦♦

Le Bureau des instruments médicaux de la Direction de l'hygiène du milieu (Santé et Bien-être social Canada) invite les dentistes à demander des formulaires de rapport sur les problèmes posés par les instruments médicaux. Selon une source officielle, le Bureau est d'avis que plus de praticiens pourraient, sans imposer de contraintes, faire appel à ce service.

On peut obtenir les formulaires soit du Bureau des instruments médicaux (Tunney's Pasture, Ottawa, Ontario, K1A 0L2) soit des bureaux régionaux de la Direction générale de la protection de la santé (Santé et Bien-être social Canada).

Sur réception des rapports complétés, le Bureau les étudiera à commencer par ceux qui constituent une priorité. Risques, dangers, défauts, étiquetage ou mode d'emploi insuffisant, publicité mensongère ou tout autre problème associé aux instruments médicaux seront traités. Tous les rapports resteront strictement confidentiels et les résultats en seront communiqués à leurs auteurs.

♦♦♦♦♦♦♦♦

L'Association dentaire américaine a lancé une campagne —Operation IDENT— pour tenter de solutionner le problème causé par les dentiers qu'on égare dans les hôpitaux et les maisons de retraite.

On demandera aux sociétés dentaires de fournir des renseignements à ce sujet, puis on publiera un rapport indiquant les méthodes que les dentistes jugent les plus utiles pour identifier les dentiers.

Au Canada, a déclaré le Dr Doug Chaytor, président de l'Association des prothésistes du Canada, les prothésistes qui travaillent dans les dix écoles dentaires du pays et cherchent un moyen d'identifier les prothèses, ont mis au point diverses méthodes, y compris une plaquette en céramique conçue par le Dr Philip Samis, un praticien privé de Montréal, en 1974. Cette micro-plaquette est capable de résister à la chaleur, peut être gravée et fixée sous une obturation, permettant d'identifier rapidement les victimes des incendies ou des accidents.

Présentement, l'Université de la Saskatchewan essaie d'améliorer la micro-plaquette et de la faire servir à d'autres fins.

Le responsable du projet, le doyen E.R. Ambrose, a précisé qu'il existe, sur le marché canadien, plusieurs méthodes pour identifier les prothèses et qu'il appartient à chacun de choisir celle qui lui convient.

Radiation Protection in Pediatric Radiology

*National Council on Radiation
Protection & Measurements
Report #68
Washington, D.C.
138 pages*

The stated purpose of this text is to provide practical information regarding the reduction of radiation dose resulting from diagnostic procedures to the pediatric patient. These suggestions are prepared for those who prescribe or practise pediatric radiology.

As is true of NCRP publications, this report is well organized and is accompanied by a useful table of contents and index. Ease of reading may be attributed to the fact that the material is presented in a conversational manner and is bereft of cumbersome detail. This, in itself, makes the text eminently practical for consumption by those who lack specialized knowledge of radiation physics and radiation biology. However, the brevity also results in potentially confusing statements to those without specialized knowledge. For instance, in the section "Tissues at Risk" the authors state "the effect of x-radiation at very low doses and/or dose rates may be smaller than the linear projections given in other reports."¹ If the reader is not familiar with the dose response curves of x-radiation and with the debate surrounding the shape of the extrapolated portion of the curve for low level ionizing radiation, the reader will not appreciate the significance of this statement.

Also of significance is the fact that many statements are bereft of references which unfortunately may cast a shadow on credibility. But, as stated, the directive of this report is not to enter into a debate of the biological significance of low level radiation, but to provide easily digestible information.

Most of the text is directed towards those employed in medical pediatric radiology and very little for pedodontic radiology. However, the following points should be of interest to the dental profession.

For instance, the question "does the benefit justify the risk?" should precede the use of diagnostic radiology and the amount of radiation used should be as little as possible to commensurate with adequate diagnostic value. These two primary principles have already been stated by such bodies as the FDI, ADA, WHO and our own Working Group on Oral Radiological Services, who prepared a report to the Minister of National Health and Welfare.

The following points are important differences between adult and child radiography. Children have a greater life expectancy and greater risk of some radiation induced diseases, e.g. leukemia, require smaller exposures and present motion problems.

This report suggests that self-referral for radiological services by physicians should be discouraged because of a perceived conflict of interest which arises from the monetary gain from these services. It certainly is impractical for dentists to refer their routine intra-oral radiography, but they should be aware of this potential conflict of interest. Also, those who actually take the x-ray films for the patient should be competent in radiation physics and radiological techniques.

To minimize exposure the use of collimators, localizers and immobilizers are useful tools in pedodontic radiology. If child movement is a problem, mechanical restraints are desirable. If restraints are not applicable, the parent may restrain the child and the use of the technician for this purpose should be avoided. The authors also suggest the use of rare-earth screens for cephalometric films and panographs which may reduce two to three times the patient's exposure. Quality control is briefly touched upon and attention is drawn to reducing the number of retake films.

In the small section devoted to dental radiology, a study by Overend (1976) is quoted to support the contention that most dental films are processed manually. I think this informa-

tion is out-of-date as automatic developers are now commonplace in dental clinics. Thus, quality control mechanisms presented for automatic developers are of interest to the dentist. Also it has been my experience that, in practice, automation does not ensure constant quality over manual developing as suggested by the authors.

Achieving rapport with and cooperation of the child are worthwhile objectives. The use of higher kV values are suggested, but no guidelines are mentioned in the text.

The thyroid and salivary glands are radiosensitive areas of concern in dental radiology. The bone marrow and gonadal tissues receive very little radiation. Here the authors fail to give adequate references although there is material available to support these facts. Often thyroid shields are too large and ill-fitting for the pedodontic patient. Use of this shield for cephalometric and panoramic radiography may result in the elimination of the image of the inferior border of the mandible. There are no suggestions regarding the resolution of this problem.

Gonadal protection is of limited value with modern dental equipment but should be used for patient reassurance. The use of panoramic radiography for the pedodontic patient results in wide exposure to the head and neck with radiation of little diagnostic value. This excess exposure may be reduced by decreasing the vertical dimension of the x-ray beam. Again the authors do not suggest a remedy. The number of radiographs and their periodicity should never be a matter of routine, but should be tailored to the expected pathology of each patient. Film-holding devices are valuable in eliminating the use of fingers to hold the film.

Presented in the appendix is a chart of some typical skin entry doses from an article of Valachovic and Zurbrugg (1980). One should be cautioned that these are skin doses and not integrated doses, and their importance should be weighed accordingly. The cha-

shows a dramatic drop in skin dose with the use of a beam-guiding device in paralleling technique. It is hard to imagine how a guiding device could achieve this effect. The guiding device is not described and no help can be found in Valachovic's article.

This table also shows a reduction in skin dose from 70 kVp to 90 kVp. This would appear to be desirable, but it does not represent integrated dose. Certainly there is less scatter from high kVp beams in children, but the thyroid gland is much closer anatomically. Also film sensitivity is important as shown by Richards.¹ His data shows the most appropriate photon energy is 35-55 KeV which approximates the mean photon energy in a beam of 70 kVp according to Ray Alfox.² Thus, the benefit of using 90 kVp over 70 kVp has questionable value in light of all the variables involved. The skin dose for panoramic films presented in this table appear to be high in comparison to data presented by Manson-Hing.³ Also, the type of panoramic machine tested is not mentioned, considering skin dose alone does not take into account other fac-

tors such as high doses near the axis of rotation for panographs.

In summary, the document did achieve its objective of presenting practical suggestions to those who practise radiology regarding reducing radiation dose to pediatric patients. This document, designed for easy reading, is necessarily bereft of detail, sufficient references and, in particular, lack of sufficient information concerning dental radiology. Because the main thrust of the text is not directed towards dental radiology, perhaps in the future NCRP may present a practical-like manual for dental radiology.

This book was reviewed by Michael J. Pharoah, BSc, DDS, Resident in Oral Radiology, Faculty of Dentistry, University of Toronto.

- 1 Richards, A.G. et al. **Samarium filters for dental radiology.** *Oral Surg.* 29:704-715, May 1970.
- 2 Goay, P.W., and S. White. **Oral Radiology,** C.V. Mosby Co., 1982, pg. 76.
- 3 Manson-hing, L. and D. Greer. *Oral Surg.* 44:313-321, 1977.

Obituaries/ Nécrologies

BARNSTEAD, E. Wilfred: Dr. Barnstead, a member of the Canadian Dental Association, was born in 1908. A graduate of Dalhousie University in 1932, he practiced dentistry in Halifax from 1933.

CHALMERS, Paul Anthony: November 24, 1982. Dr. Chalmers, of Edmonton, Alberta, was born in Manitoba in 1936. He graduated in dentistry from the University of Alberta in 1966 and practised in Fort Saskatchewan, Smoky Lake and Edmonton, Alberta. He was Regional Dental Officer, Medical Services, for Health & Welfare Canada from 1978-79.

CRABBE, James O: November 4, 1982. Of Ottawa, Ontario, Dr. Crabbe was born in 1908 and graduated from the University of Toronto in 1930. He was a life member of the CDA.

DESLAURIERS, Laurent: Décédé le 21 octobre 1982. Dr. Deslauriers gradué de l'Université de Montréal en 1933. Née en 1906.

DICKSON, Rayment, Evered: Dr. Dickson, a graduate of the University of Alberta in 1942, was born in Biggar, Saskatchewan in 1919. He was a past president of the Saskatoon Dental Society and of the Western Canada Dental Society.

In Memoriam — Dr. Philip S. Christie

One of the Atlantic Provinces' most distinguished dentists, Dr. Philip S. Christie, died in Halifax on Christmas eve.

A graduate of the Dalhousie University dental school in 1939, Dr. Christie served as President of the Canadian Dental Association in 1965-66.

Following graduation, Dr. Christie joined the Canadian Dental Corps and saw service in Canada and the United Kingdom between 1939 and 1943.

He set up a private practice in 1944.

Dr. Christie was president of the

Halifax County Dental Society in 1947-48 and of the Nova Scotia Dental Association in 1953-54.

He served as Chairman of the CDA Board of Governors from 1969 to 1973.

At Dalhousie University, Faculty of Dentistry, Dr. Christie served as Professor of Orthodontics.

He was the father of Dr. John S. Christie, a serving member of the CDA Board of Governors.

Dr. Christie was a Charter Fellow of the RCD(C), a Fellow of the International College of Dentists and a Member of the Pierre Fauchard Academy.

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Avoiding perforations during post preparation

Kenneth Zakariasen, DDS, MS, PhD
 Richard Jordan, DDS, MS
 Sandra Madison, DDS, MPH, MS
 Iowa City, Iowa

ABSTRACT

An unfortunate consequence which sometimes occurs during the preparation of root canals for posts is perforation of the root. While numerous techniques are available for gutta percha removal and post preparation, not all present the same degree of safety. This article reviews these techniques, and a method involving pre-shaping of the post preparation prior to canal obturation is presented. This technique provides for post preparation in an open canal pathway, facilitates the rapid removal of gutta percha to a predetermined depth, and creates a situation where rotary instruments can be utilized with little chance of root perforation.

RÉSUMÉ

Il arrive malheureusement parfois que la préparation des canaux radiculaires pour la pose des tenons entraîne la perforation des canaux. Il existe de nombreuses méthodes pour enlever la gutta-percha et préparer la fixation des tenons, mais toutes ne sont pas également sûres. Le présent article passe en revue les méthodes actuelles, s'attardant plus particulièrement à celle qui consiste à modeler la préparation du tenon avant l'obturation du canal. Cette méthode permet de préparer le tenon dans un sujet radiculaire ouvert, facilite l'enlèvement rapide de la gutta-percha à une profondeur déterminée à l'avance et rend possible l'utilisation d'instruments rotatifs sans danger de perforer une racine.

Posts are often placed in root canals to aid in the retention of a core build-up and to strengthen the crown-root relationship.^{1,2} One of the unfortunate consequences of post preparation is the perforation of roots during this procedure (Figs. 1 and 2). Such errors seriously jeopardize the prognosis for long-term success.

Traditionally, root canals are obturated with gutta percha and a root canal sealer. Gutta percha can be removed for post preparation with rotary instruments,

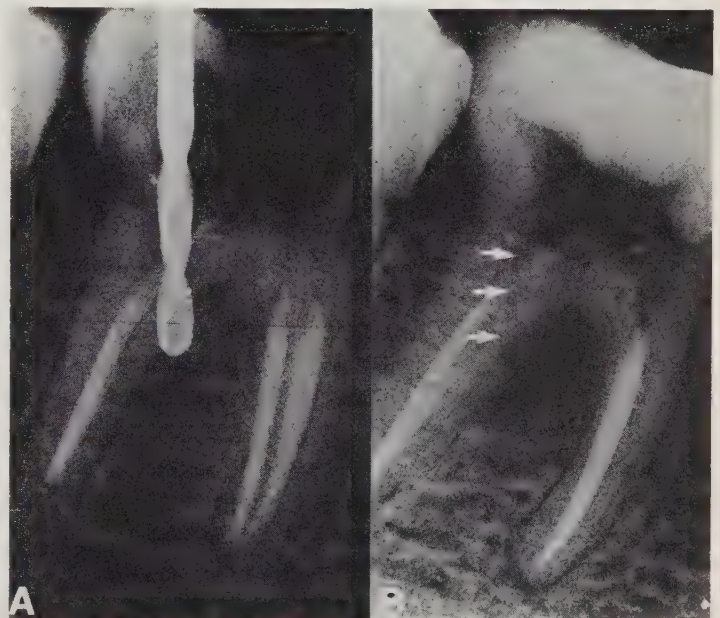


Fig. 1 — A: Bur perforating distal root into furcation area.
 B: Furcation lesion formed following attempt to seal perforation with calcium hydroxide. (Perforation arrowed.)



Fig. 2. — Lateral root lesion associated with perforated post preparation.

heated instruments, or solvents. Partial removal of the filling material is performed and the post preparation made, using either a one- or two-step technique.

In the one-step technique, the gutta percha is removed and the canal enlarged simultaneously¹ This procedure utilizes rotary instruments such as Peeso reamers, Para-Post drills* or Gates-Glidden burs (Fig. 3). It should be recognized that rotary instruments will remove dentine and gutta percha quite rapidly. This, in addition to the decreased tactile sensitivity and the difficulty in accurately determining canal angulation for an obturated canal,

*Whaledent Inc. New York, N.Y.

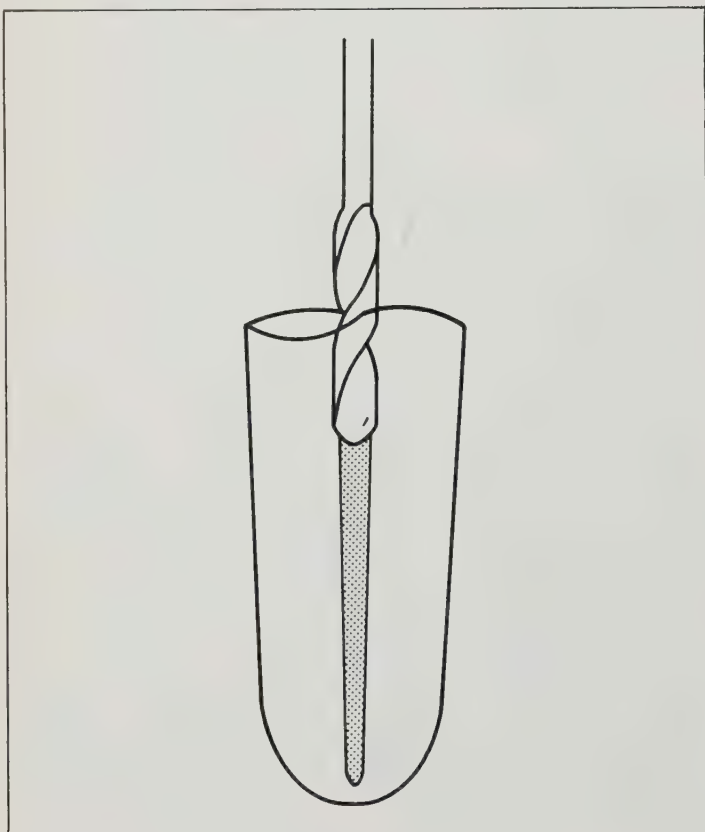


Fig. 3. — One-step technique: simultaneous gutta percha removal and post preparation.

makes it understandable that root perforations can occur with the one-step technique.

The two-step technique for post preparation minimizes the occurrence of root perforations (Fig. 4)³ In this technique the gutta percha is first removed to within five millimetres of working length with heat or solvents. The canal is then enlarged at this length to the desired post size. The removal of gutta percha to post preparation provides a well-defined pathway for the post preparation instrument. Tactile perception is good and the canal angulation can be easily followed. Perforations using the two-step method are infrequent.

The solvent generally used for gutta percha removal is chloroform.⁴ It is used in conjunction with endodontic files to remove gutta percha, especially in small canals where heated instruments are ineffective. The use of solvents can be time-consuming and, in the case of multiple canal teeth, restriction of the solvent to the canal being prepared is difficult.

Removal of gutta percha by heat is accomplished with heated endodontic pluggers. The largest plugger that will negotiate the canal is used, since the larger sizes retain heat longer. The plugger is heated over a flame until red-hot, quickly inserted into the gutta percha and removed. The heat softens the gutta percha so that it can be removed in small increments. If the plugger is allowed to cool in the gutta percha, dislodgement or removal of the material is possible.

Heater pluggers, in our experience, are a time-efficient

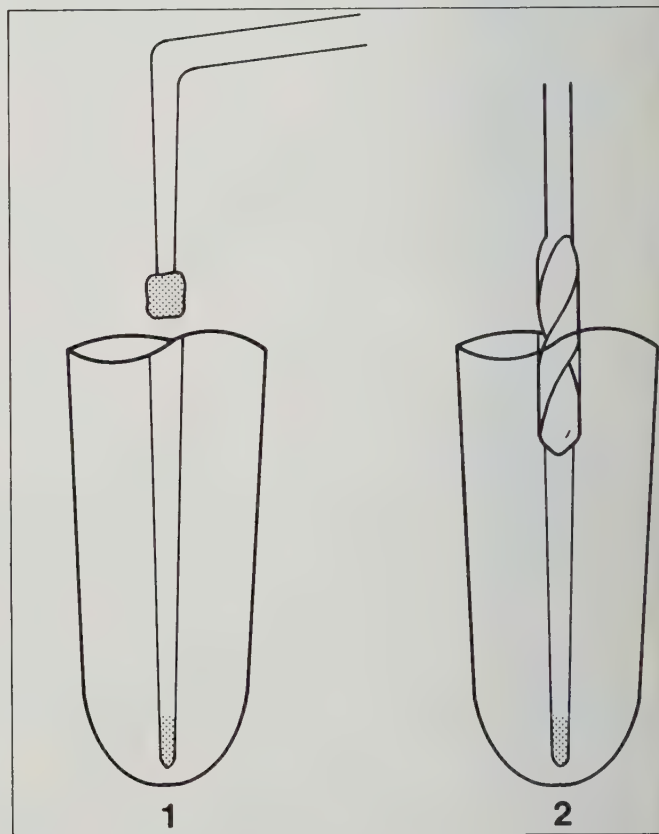


Fig. 4. — Two-step technique 1) gutta percha removal with heat (or solvent); 2) post preparation.

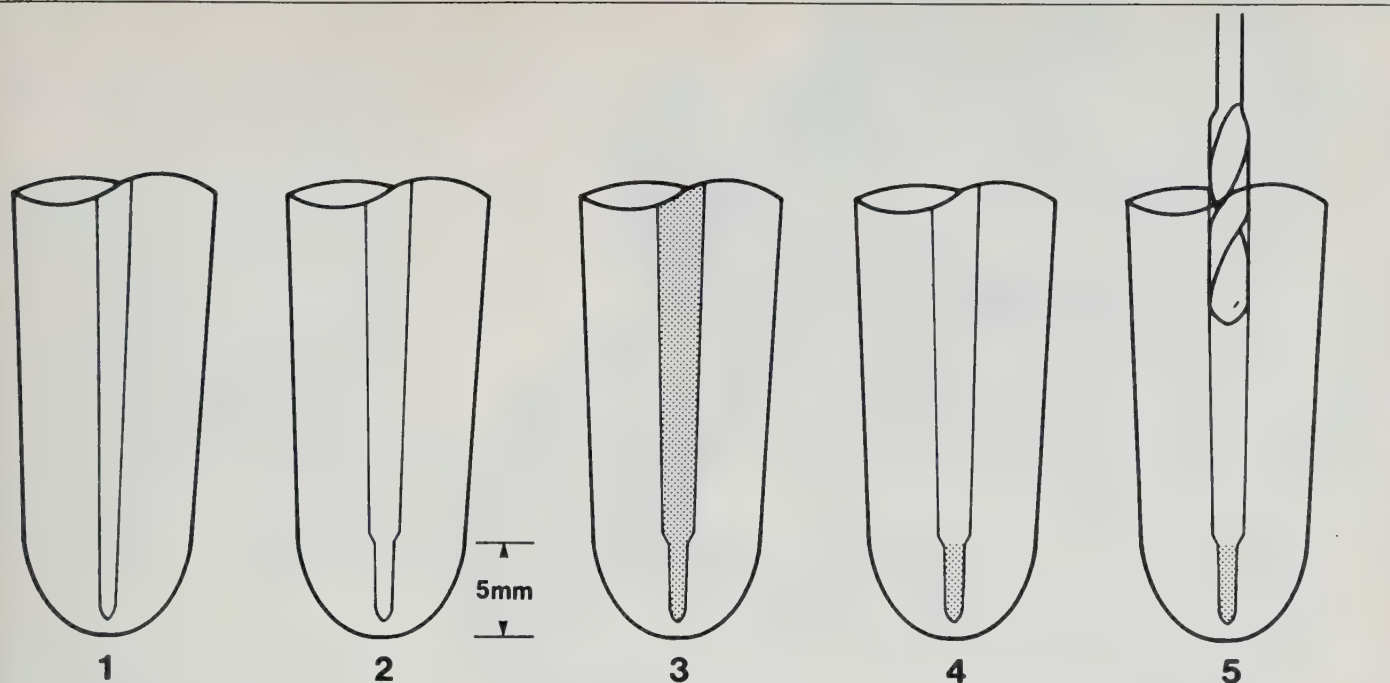


Fig. 5 — Preshaping technique: 1) canal prepared to therapeutic size; 2) post preparation preshaped to a minimum of size 80; 3) canal obturated;

4) gutta percha removed from post preparation; 5) optional reshaping for parallel post.

safe method for gutta percha removal. However, they do not work well in small canals. The smaller pluggers do not retain their heat long enough to facilitate satisfactory penetration and removal of the gutta percha. A technique which allows the efficient use of heater pluggers in any canal, simplifies gutta percha removal and provides for post preparation in an open canal space is the pre-shaping of the canal to post size prior to canal obturation (Fig 5).

The root canal to receive the post is instrumented to the desired endodontic therapeutic size, i.e. it is thoroughly debrided and properly shaped for obturation. The canal is then enlarged to a minimum of a number 80 instrument five millimetres short of the working length. This is the minimal size that has enough rigidity for posting. It is also an adequate size in which to use larger heater pluggers which will retain their heat efficiently. The canal is then obturated with gutta percha and sealer. The gutta percha in the pre-shaped post preparation is removed with heated endodontic pluggers. The plugger safely stops five millimetres from working length where the post preparation terminates. This makes the gutta percha removal an easy, rapid procedure which has little chance of disturbing the apical seal.

The canal is ready to accept one of the Endowell† patterns which correspond to file sizes 80-140. It can be reshaped for antirotational characteristics in the coronal third or for a parallel post with rotary instruments if desired. Any additional reshaping of the canal is relatively safe since the canal is free of filling material, leaving a well defined passageway of at least size 80.

Another advantage of this technique is that fewer radiographs are necessary. Because the canal is preshaped,

only gutta percha removal and minor reshaping are required after obturation. Radiographs should not be necessary for these steps.

SUMMARY

A technique involving pre-shaping of root canals for prosthodontic posting prior canal obturation has been described. It provides for post preparation in an open canal pathway, facilitates the rapid removal of gutta percha to a predetermined depth with heater pluggers, and creates a situation where rotary instruments can be utilized with little chance of root perforation.

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Complete prescribing information available on request.

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Why don't we polish our amalgam restorations?

Frank J. Miranda, DDS, MEd, MBA

SUMMARY

One of the most commonly observed omissions in the realm of dental patient care has been the failure to polish amalgam restorations, even in light of the proven advantages of this procedure. The advent of newer alloys (particularly the so-called "high copper" alloys) has fueled the claim that traditional polishing methods are no longer as viable as such alternate techniques as burnishing. Most investigators agree, however, that no alloy has yet been produced that cannot be improved by some method of post-carving treatment. This paper re-examines the advantages and techniques of traditional polishing, compares polishing, and burnishing from a practical standpoint, discusses some possible reasons for the reported failure to polish amalgam restorations, and offers a few suggestions on how educators, practitioners, and patients can be motivated to include this essential service in the spectrum of total patient care.

The silver amalgam restoration constitutes approximately 65-80 per cent of all restorations placed over the last century, making it the most commonly used restorative material in dentistry.¹⁻² As such, it is reasonable to expect that the techniques for proper use, the variables involved in correct manipulation, the search for better and

longer-lasting alloys, and the procedures necessary to promote the longevity of such restorations have been refined to a degree befitting their nearly universal application. Yet, it has been reported that dental amalgam is the most abused of all restorative materials.³ Perhaps the greatest abuse is the fact that very few amalgam restorations are polished.⁴

It has long been recognized that the amalgam restoration remains "incomplete" until it has been finished and polished.⁵⁻⁷ The advantages of polishing include (1) increased resistance to tarnish and corrosion, (2) a more refined marginal adaptation, (3) increased resistance to the retention of plaque, (4) minor correction of occlusal discrepancies, and (5) better esthetics.¹ The ultimate advantage is, of course, the increased functional life of the restoration. Given that these benefits have been proven through numerous research efforts, why then are so few restorations polished? The usual excuses are that polishing generates frictional heat buildup that is potentially damaging to the restoration and to the pulp, polishing techniques are too time-consuming to be practical, and the introduction of newer alloys (such as dispersant-phase and so-called "high copper" alloys) puts the efficacy of such procedures in question. Notwithstanding this, the great majority of dental schools teach some form of polishing technique and require that such procedures be in-

stituted for nearly all amalgam restorations placed.⁸ While it may be true that new amalgam products continue to be developed that modify the need for post-carving treatment, polishing procedures continue to be a viable part of operative dental instruction in most dental schools.

TECHNIQUES OF POLISHING

Numerous polishing techniques have been reported in the literature, all of which differ slightly in the instrumentation employed.^{1,5-7} It appears, however, that there is a "common core" of instrumentation in polishing procedures which includes (1) finishing with a variety of fluted carbide burs and/or discs and (2) polishing with soft rubber cups and decreasing-grit polishing agents, such as flour of pumice, amalgloss, or tin oxide. The finishing burs most often mentioned were 12-fluted carbide finishing burs of various shapes and sizes to accommodate areas of different anatomical form and contour on the restoration.⁸ With few exceptions, there is general agreement that polishing procedures should be accomplished with light pressure, intermittent application, and low rotary speeds. This basic armamentarium makes up what most educators feel is the minimum necessary for proper polishing. Of course, many schools augment this armamentarium to support particular teaching philosophies that encompass a more refined technique, using such other instruments as 40-fluted carbide finishing burs (for superfine polishing), white and/or green stones, rubber points and cups, and prophylaxis paste.⁸ In every case, the avoidance of frictional heat generation is regarded as a major consideration. In addition, all educators agree that all abrasives be used in a sequential fashion, employing a progressively decreasing grit scheme. Proper manipulation of instruments and materials during any polishing procedure undermines any argument that such procedures are damaging to the restoration or to the pulp.

The second argument against polishing states that such procedures are too time-consuming to be practical. Again, use of limited "core" armamentaria with a well-organized technique of polishing can achieve the desired results easily and rapidly with a minimum of chair time and effort. A simple three-step technique used and advocated by the author includes (1) finishing or "dressing down" of margins and amalgam surfaces with various 12-fluted carbide burs at conventional speed, (2) refined finishing with rubber cups or brushes and a slurry of coarse or medium-grit pumice, and (3) polishing with rubber cups and dry tin oxide or amalgloss using a "buffing" motion with low speed, intermittent contact, and air coolant. Such a procedure can result in a well-polished restoration in less than five minutes. In any case, arguments that polishing is too time-consuming and impractical are most likely founded on improper technique or inadequate motivation, whether conscious or accidental.

The third argument often espoused as a reason for not polishing amalgam restorations is that newer amalgam

products preclude the need for such procedures. Of all such arguments, this perhaps has the greatest merit since the newer alloys do demonstrate an improved tarnish and corrosion resistance and better handling characteristics. However, most educators agree that no alloy has yet been developed that cannot be improved with *some* post-carving treatment.⁸ While few are ready to regard finishing and polishing procedures as extraneous, there is general agreement that newer and simpler post-carving methods should be examined and researched carefully. One such method is burnishing.

BURNISHING VS POLISHING

There is as yet no one totally workable definition of the term "burnishing". There is even mild disagreement with the term itself, some preferring to call the technique "surfacing" or "post-carving". Whichever term is used, the technique differs from conventional polishing procedures in that it is instituted almost immediately after carving has been completed. Although variations in technique exist, the common characteristic is immediate post-carving manipulation of the amalgam surface to smooth out irregularities and improve marginal adaptation. Use of a blunt hand instrument (such as a condenser or burnisher) or rubber cups with prophylaxis paste are most commonly mentioned by educators.⁸ If continued for a suitable time period (5-10 minutes after carving), a satin surface lustre is developed, supposedly negating the need for a subsequent polishing appointment. Since traditional polishing methods require a minimum waiting time of 24 hours between carving and polishing,⁶ burnishing appears to offer some distinct advantages. Chair time is saved, more restorations are treated beyond the carving stage, polishing appointments are virtually eliminated, and traditional complaints about the uselessness of polishing are no longer viable.

However, some investigators feel that burnishing may actually weaken conventional amalgams through increased deposition of gamma-2 near the margins of restorations and may increase the emission of mercury vapor.⁹ More recent research¹⁰⁻¹¹ has demonstrated a reduction of mercury volatilization and corrosion and an increase in marginal strength through burnishing. Few clinical studies have been conducted to confirm or refute these findings convincingly enough to satisfy most educators and practitioners. A poll of dental schools⁸ revealed that there is wide latitude in the degree to which it is taught, ranging from complete acceptance as an integral part of the amalgam procedure to non-inclusion in teaching programs based on the inconclusiveness of research evidence. Many educators feel that too much reliance on a relatively unproven technique will spell the demise of conventional (and proven) polishing techniques. There appear to be enough questions raised regarding the proper time to burnish, the amount of force to apply, the length of burnishing time, and the long-term effects of burnishing when compared with polishing that the technique must

undergo further rigorous testing before uniform acceptance can be assured.¹² There are, however, enough proponents of burnishing to warrant the feeling that a new era in post-carving treatment techniques may be emerging.

DISCUSSION & RECOMMENDATIONS

Amalgam polishing seems to share the dubious honor (along with rubber dam utilization) of being stressed highly in teaching programs, but done sparingly outside the school environment.³⁻⁴ The reasons for this have been outlined. Can amalgam polishing as a useful procedure be made more acceptable to the practicing dental community? A number of suggestions towards this end have been proposed. First, dental educators should evaluate their methods of instruction in the dental schools. If techniques of polishing are regarded by the dental student as too complex for the results obtained, there may be potential resistance to the procedure when the student graduates. Perhaps revision and simplification of technique that gives essentially the same results may be more acceptable to students and more readily adopted in private practice. Second, dental educators should review their attitudes toward finishing and polishing procedures. Such procedures are often not regarded as important when compared with amalgam cavity preparation or carving of the restoration, especially when grading or weighting the entire procedure is concerned. Polishing as a necessary part of the amalgam procedure will be held in low esteem when it renders a very minor proportion of a grade for that procedure. A few licensing examinations are recognizing this deficiency in evaluation by assigning a greater portion of the grade to the **polished** amalgam restoration rather than to the **inserted** amalgam restoration.¹³

Third, the traditional school method of polishing amalgam restorations at subsequent appointments for no additional fee is viewed as an economic impracticality when carried to the private practice domain.⁸ One suggestion or remedy might involve the concept of "service visits" that are scheduled when deemed necessary and for which a modest fee is charged. Such an additional visit, for which patients would of course need to be properly motivated, would at least solve the problem of neglected amalgam polishing.

Finally, the new era of dental restorative materials with improved characteristics, handling, properties, and long-term outlooks demands continuing research to improve on the traditional methods of manipulation and use. Clinical and laboratory studies are needed to give direction to dental practitioners that will improve their services and enhance their standing in the health community. Dental amalgam continues to be the most commonly used restorative material and it has been proven that the amalgam service is incomplete until some type of post-carving treatment is rendered, whether it be traditional finishing and polishing or a newer technique such as burnishing. There is much support for the viewpoint that failure to provide

this essential service is primarily the result of a lack of enlightenment and motivation. Revision of attitudes and approaches on the part of dental school educators, students, and practitioners can save this simple but beneficial procedure from obscurity and improve both the image and the service provided by the dental profession.

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A direct method for multiple core preparation

Nagi M. Halhoul, BDS, MSc, PhD
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Alexandria, Egypt

SUMMARY

Mutilated endodontically treated teeth have always been a challenge in regards to procedures required for successful restoration. Following endodontic therapy, the remaining clinical crown is seldom strong enough to withstand normal functional forces. In most cases, the utilization of post and core systems has provided efficient means of restoring these teeth.¹⁻⁷

The remaining consideration for this type of treatment is the time and the number of visits required to complete these procedures, particularly in cases where multiple cores are required. This paper presents a practical technique for direct multiple core build-up in a single appointment.



Fig 1. A: Study cast. B: Diagnostic wax up.

PROCEDURE

1. From an accurate impression, a study cast is prepared and complete diagnostic wax-up is completed. The latter should meet both functional and aesthetic requirements (Fig 1A and B).
2. The diagnostic wax-up model is then duplicated and two stone models are poured.
3. The first model is used to make a plastic template for temporary crown fabrication (Fig 2). Template fabrication has been discussed elsewhere in the literature.⁸
4. On the second model, the anticipated preparations are roughly completed. In this demonstration, porcelain fused to metal preparations are cut on the model and a

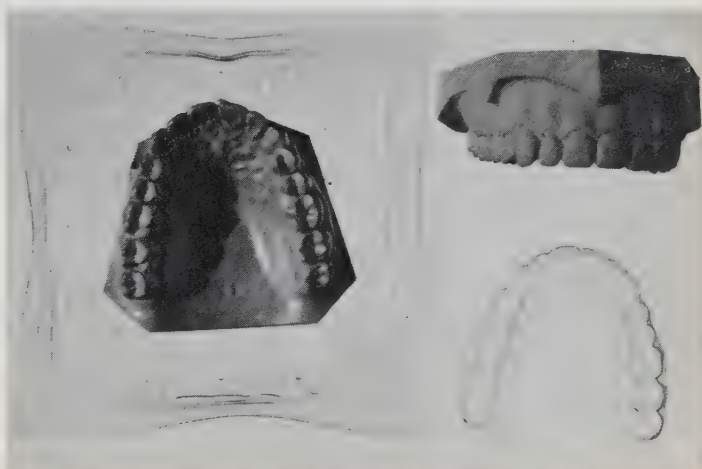


Fig 2. Duplicate model and template for temporary crowns.

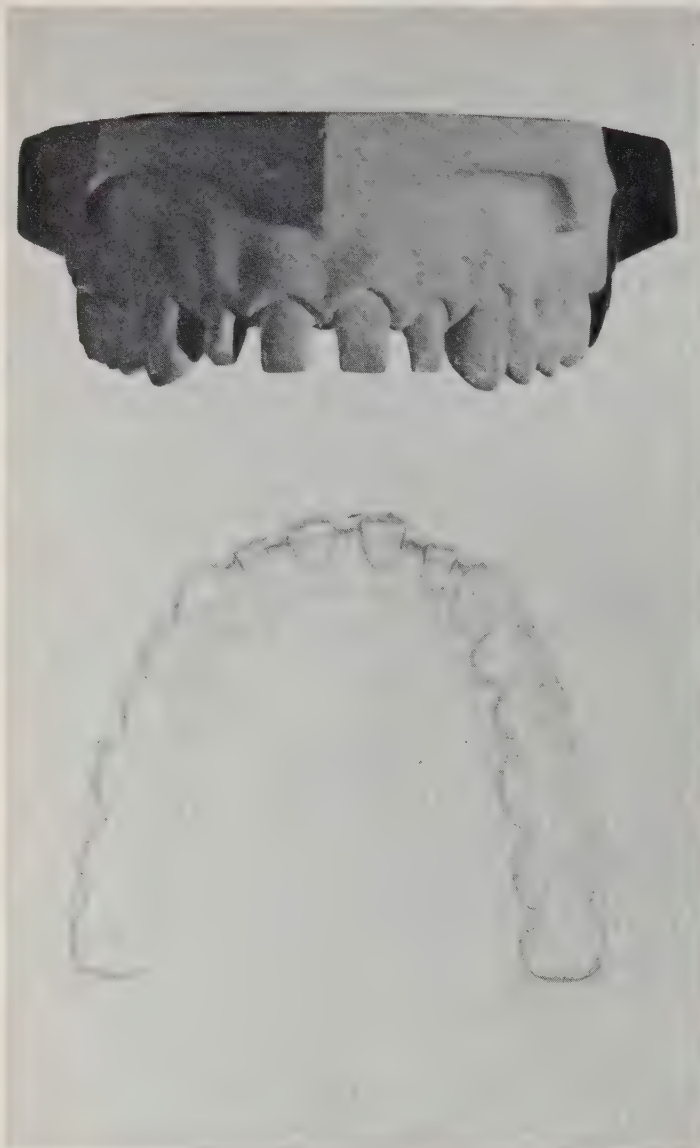


Fig 3. Prepared teeth on model and the template.

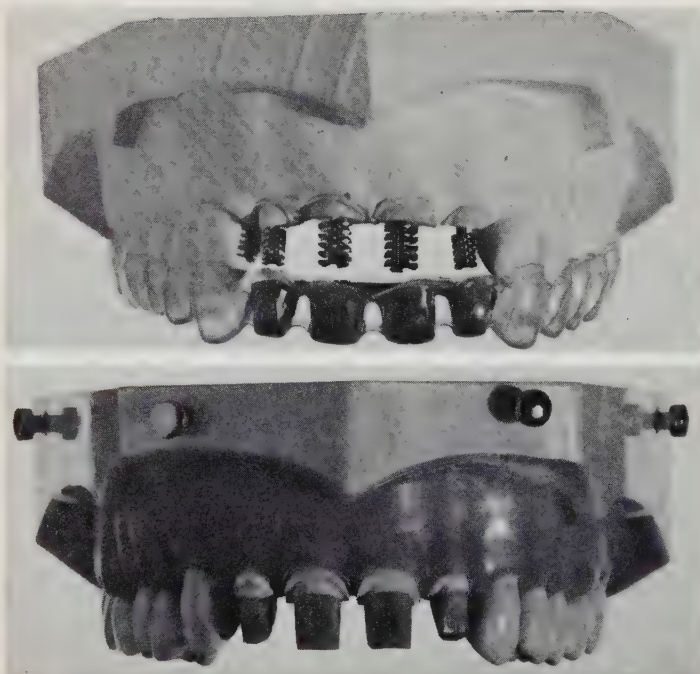


Fig 4. A: Ready-made posts in place and the filled template is ready to set. B: Completed core after removal of the template.

plastic template of the prepared model is fabricated (Fig 3).

5. After fitting and cementation of the ready-made post system of choice for the teeth to be restored, the plastic template is filled with a composite core material. The template is then placed over the cemented posts and seated to fit securely over adjacent teeth. In this case, a composite colored with a small amount of Duralay pink powder (Reliance Dental Mfg. Co.) was used. After composite cores are completely set, the template is removed and the final preparations are completed (Fig 4A and B). The visible light curing composite systems offer the advantage of no time restriction when filling the template and for seating it carefully prior to curing the formed composite cores.

DISCUSSION

A procedure for multiple core build up has been presented. The method is accurate and efficient. It has the advantage of saving chair time and completing the build up of several cores in one visit. Either a self-curing or visible light cured composite system can be utilized.

SUMMARY

The procedure for preparing a core build up for endodontically treated teeth can be tedious and time consuming. This paper describes a method for multiple core build up in one visit that would be of interest to practitioners.

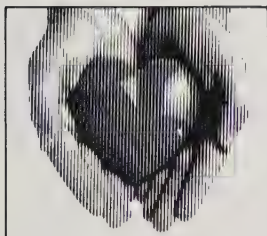
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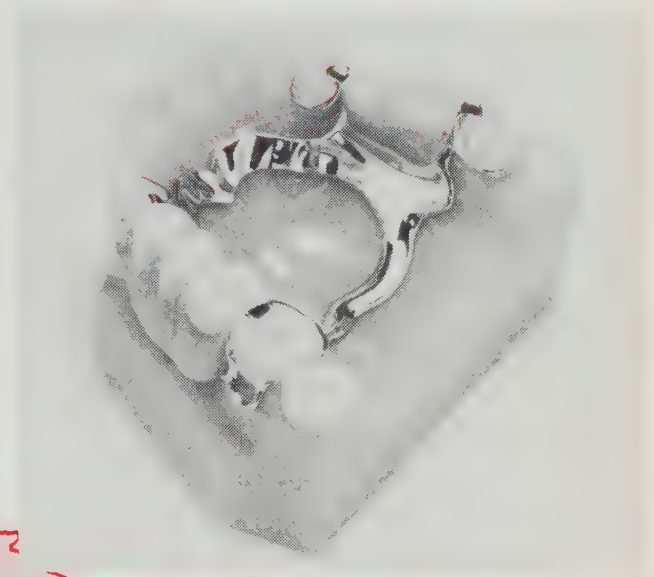
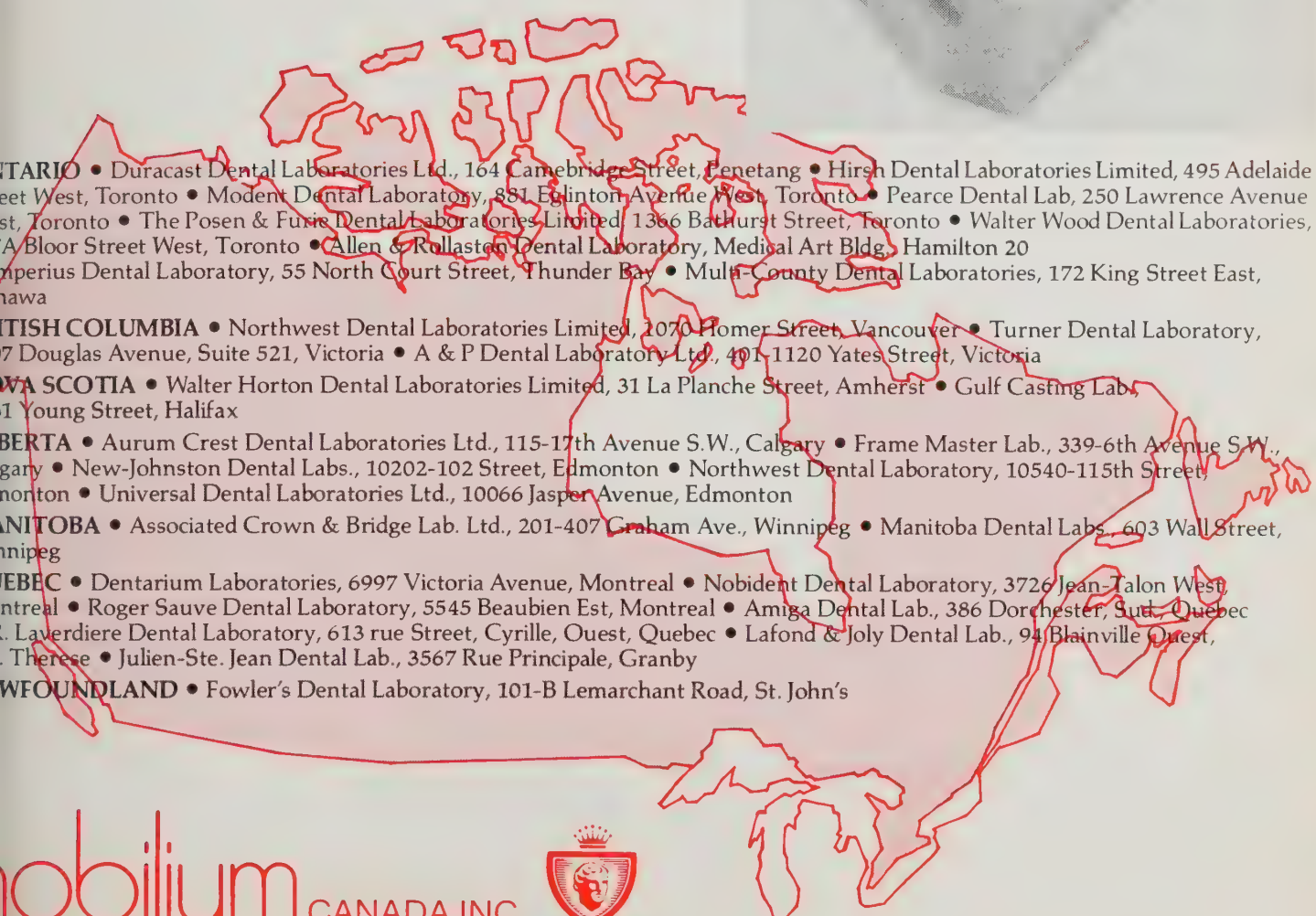
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SCIENTIFIC ARTICLES: should not exceed 2,500 words with a minimum number of illustrations, diagrams, photographs, tables or graphs. An average of 20 references is acceptable.

MAJOR REPORTS: are longer contributions dealing with diagnosis and treatment of dental disease, studies in education, clinical and laboratory research and other detailed investigations pertinent to dentistry and related fields.

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Further particulars and application forms may be obtained from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF, England or from the Appointments Unit, Secretary's Office, University of Hong Kong, Hong Kong. The closing date for applications is **8 March 1983**.

Announcements

1983 CANADA

February/février

Joint Meeting of the ODS, ODN&AA, and Hygienists will be held in Ottawa, February 21, 1983. Table clinics, commercial exhibits and films will be held. The theme is "Debugging your Dental Office."

March/mars

The Canadian Dental Curling Championship, in conjunction with the Western Canada Mid-Winter Dental Convention, will be held in Calgary, Alberta, March 9-12, 1983. Convention speaker Dr. Hank Shimbashi, whose topic is "Introduction to Neuromuscular Occlusion and Myoelectronics", will speak on March 9, 2-5 pm, at the Palliser Hotel. Registration for the Bonspiel and/or Wednesday lecture can be made by contacting Dr. R. Taillon, 202-1711-4 Street S.W., Calgary, Alberta T2S 1V8; 264-7162.

A Periodontal Symposium, presented by the Ottawa Dental Society, will be held at the Talisman Motor Hotel, Ottawa, March 28, 1983, from 9am to 5pm. Speakers are Drs. Myron Poplove, Richard Yamaoka, James MacDonald, Jean-Marc Vincent, André Marcil, Dan Morrow, John Morrow, John Whyte and Bruce Squires.

April/avril

The Ottawa Dental Society presents "Predictable Restorative Procedures" by Dr. Alvin Fillastre of the L.D. Pankey Institute, Florida, Talisman Motor Hotel, Ottawa, April 18, 1983, from 9am to 5pm. The meeting will be followed by dinner, a general business meeting and elections for ODS members.

The Faculty of Dentistry, Dalhousie University will offer a review course for oral and maxillofacial surgeons from April 18-22, 1983. This is the first time such a comprehensive review course has been offered in Canada. Topics will include Medicine, Physical Diagnosis, TMJ Surgery, Trauma, Anaesthesia, Dento-facial Deformities, Infection and Cleft Palate. Participation exercises in histopathology designed specifically to meet the needs of oral and maxillofacial surgeons will be offered in four evening sessions. It is being co-ordinated by Dr. David S. Precious, Director of the graduate program in Oral Surgery. Brochures, including application forms, can be ob-

tained by writing: Continuing Education in Dentistry, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia B3H 3J5, Canada; (902) 424-2248.

May/mai

The North Central region, in conjunction with the Northeastern region of the American Academy of Dental Group Practice, will hold its 1983 annual meeting in Canada, Westin Hotel, Toronto, Ont., May 13-15, 1983. Contact: American Academy of Dental Group Practice, Ms. Joann Junkins, Executive Secretary, 1709 Elka Lane, Madison, Wisconsin 53704, Phone: (608) 241-2609.

Ontario Dental Association 116th Annual Spring Meeting, The Sheraton Centre, Toronto, Ontario, May 15-18, 1983. Contact: Mrs. W.C. Durham, 234 St. George Street, Toronto, Ontario M5R 2P1.

"Medic Canada '83... Towards the Year 2000", a major international health care/medical devices conference and exhibition, Edmonton, Alberta, May 29-31, 1983. Contact: Robert S. First, Inc., 707 Westchester Avenue, White Plains, N.Y. 10604; (914) 949-4248.

The 1983 Annual Convention of Les Journées Dentaires du Québec, Montréal, Québec, May 28-June 1, 1983. Contact: Dr. Morton Lang, Executive Director, Les Journées Dentaires du Québec, 3565 rue Berri, Suite 200, Montréal, Québec H2L 4G3. Phone: (514) 842-9112.

June/juin

The Canadian Association of Oral and Maxillofacial Surgeons Meeting, Vancouver, British Columbia, June 3-6, 1983. Contact: Dr. Brian M. Abrams, Secretary, Canadian Association of Oral & Maxillofacial Surgeons, 410 - 11012 MacLeod St.S., Calgary, Alta. T2J 6A5.

The 7th Annual Meeting of the Canadian Health Libraries Association, Winnipeg, Manitoba, June 13-15, 1983. Contact: Marilyn Hernandez, Conference Co-ordinator, Department of Health Library, 220-880 Portage Avenue, Winnipeg, Manitoba R3G 0P1; (204) 786-5867.

July/juillet

The 5th Canadian Congress of Dentistry for Children, Four Seasons Hotel, Calgary, Alberta, July 1-3, 1983. 5th Canadian Congress, 2nd floor, Bow Valley Square II, 205 - 5th Avenue S.W., Calgary, Alta. T2P 2V7.

"ADG-Toronto: A New Leaf on Learning", the 1983 Table Clinics program presented by the Academy of General

Dentistry, Sheraton Centre, Toronto, Ontario, July 16-20, 1983. Contact: Department of Meeting Planning, AGD, Suite 1200, 211 E. Chicago Avenue, Chicago, Illinois 60611; (312) 440-4300.

September/septembre

Meeting of the Canadian Academy of Prosthodontics, Vancouver, B.C., September 22-24, 1983. Contact: Dr. B.M. Jackson, 22 Water Street S., Kitchener, Ontario N2G 4K4.

The Royal College of Dentists of Canada Symposium on Periodontal Disease, generously supported by Colgate-Palmolive Canada, as part of the Canadian Dental Association's National Convention, Vancouver, B.C., Monday, September 26, 1983. The keynote speaker for the Symposium will be Dr. Harald Loe, newly appointed Director of the National Institute of Dental Research, Bethesda, Maryland, and presently Dean of the School of Dental Medicine at the University of Connecticut.

International

March/mars

The International Congress of Oral Implantologists Annual Meeting and Scientific Sessions, Beverly Hilton Hotel, Beverly Hills, CA, March 11-13, 1983. Contact: Mr. Clifford J. Kirschner, Executive Director, The International Congress of Oral Implantologists, P.O. Box 2277, Grand Central Station, New York, N.Y. 10163, (201) 783-6300.

International Meeting for Dental Continuing Education, Kulm-Hotel, St. Moritz, Switzerland, March 14-27, 1983. For details and program, contact: Downtown Travel Centre, 807 Hornby Street, Vancouver, B.C. V6Z 1T9. Phone: (604) 684-6471.

International Conference of Dental Surgeons, Rawalpindi/Islamabad, Pakistan, March 22-26, 1983. Contact: Chairman Organizing Committee, Armed Forces Institute of Dentistry, Rawalpindi, Pakistan.

"Pain Control — Something New and Exciting," presented by The Maxillofacial Pain Control Center, Temple University, Philadelphia, PA, Saturday, March 26, 1983. The clinicians include Samuel Seltzer, Robert Pollock, Dorothy Dewa and Louis Dubin. For further information contact: Continuing Education Department, School of Dentistry, Temple University, 3223 N. Broad Street, Philadelphia, PA 19140; (215) 221-2995.

I Pan-American Congress of Periodontology, sponsored by the Asociación Mexicana de Parodontia, México, México, March 31 to April 3, 1983. Contact: Asociación Mexicana de Parodontia, Manuel Montes 92, Col. Revolución, 06030 México, D.F., Mexico.

April/avril

International Congress of Dental Technology, organized by the Swiss Association of Dental Prosthetics Laboratories, Valais de Beaulieu, Lausanne, Switzerland, April 14-16, 1983. The theme is "Aesthetics in Dentistry." Contact: Secrétariat du Congrès, Office du Tourisme et des Congrès, 60, avenue d'Ouchy, CH-1006 Lausanne, Switzerland.

International Symposium on Biomechanical Aspects of Prosthodontics, presented by Professor George Zarb, Chairman of Graduate and Undergraduate Prosthodontics, Faculty of Dentistry, University of Toronto, and sponsored by The Hebrew University-Hadassah Faculty of Dental Medicine and the Toronto Alumni Chapter of the Alpha Omega Fraternity, Jerusalem, April 20-21, 1983. Contact: Professor J. Pietrokovski, Director of Removable Prosthodontics, Department of Oral Rehabilitation, The Hebrew Uni-

versity-Hadassah Faculty of Dental Medicine, P.O.B. 12000, Jerusalem, Israel; or Dr. Hart Levin, Co-Chairman, 2006 Bathurst Street, Toronto, Canada M5P 3L1, (416) 781-2751.

Alabama Implant Congress VX, Birmingham, Alabama, April 21-24, 1983. Contact: Alabama Implant Study Group, P.O. Box 4682, Birmingham, Alabama 35206.

9th Annual Meeting of The Society for Biomaterials and 15th International Biomaterials Symposium, Birmingham Hilton, Birmingham, Alabama, April 27 to May 1, 1983. Contact: Society for Biomaterials, c/o Dr. Robert G. Craig, Department of Dental Materials, School of Dentistry, University of Michigan, Ann Arbor, Michigan 48109.

First International Symposium on Periodontics and Restorative Dentistry, Sheraton-Boston Hotel, Boston, Massachusetts, April 28-30, 1983. Contact: Kim Vander Steen, Quintessence Publishing Co., Inc., 8 S. Michigan Avenue, Suite 2301, Chicago, Illinois 60603. Phone: (312) 782-3221.

Medic-Asia '83. South East Asia's 3rd International Medical and Hospital Equipment Exhibition, World Trade Centre, Singapore, May 23-26, 1983. Contact:

The P.R. Department, Interfama Pte. Ltd., Suite 1105, 11th floor, World Trade Centre, 1 Maritime Square, Singapore 0409.

November/novembre

Fédération Dentaire Internationale, 71st Annual World Dental Congress, Tokyo Japan, November 14-20, 1983. Contact: Japan Dental Association, 1-20, Kudan-Kita 4-chome, Chiyoda-ku, Tokyo 102, Japan.

CDA

Canadian Dental Association, 1983 National Convention, Vancouver, British Columbia, September 25-28, 1983.

Canadian Dental Association, 1984 National Convention, Montreal, Quebec, April 8-12, 1984. Contact: Dr. Morton Lang, O.D.Q., 3565 Berri St., Suite 200, Montreal, Que. H2L 4G3. Phone: (514) 842-9112.

Canadian Dental Association, 1985 National Convention, Ottawa, Ontario, September 29-October 2, 1985.

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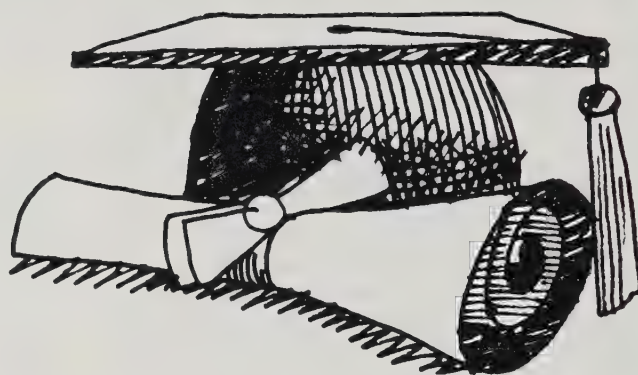
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ADVERTISERS' INDEX

Allan's Travel Service Ltd.	102
Amadent	126
Block Drug Co. (Canada) Ltd.	82
John O. Butler	73
CDSPI	104, 122
C.F.D.E.	144
Colgate-Palmolive Inc.	80, 81
Defense nationale	106
Dept. of National Defence	106
Dupont Pharmaceuticals	130
International Dental Show	98
Ivoclar-Vivadent Canada Inc.	138
K-Comp Computer Services	137
Kattiwok Seminar	134
Kerr Canada	103
Nobilium Products	139
Pfingst	137
Proctor and Gamble Co. of Canada Ltd.	74
Ultra Caine	104 (A), 105
Upjohn Co. of Canada	IFC, 105
Warner Lambert	OBC
Whaledent International	79
Wright Dental	IBC

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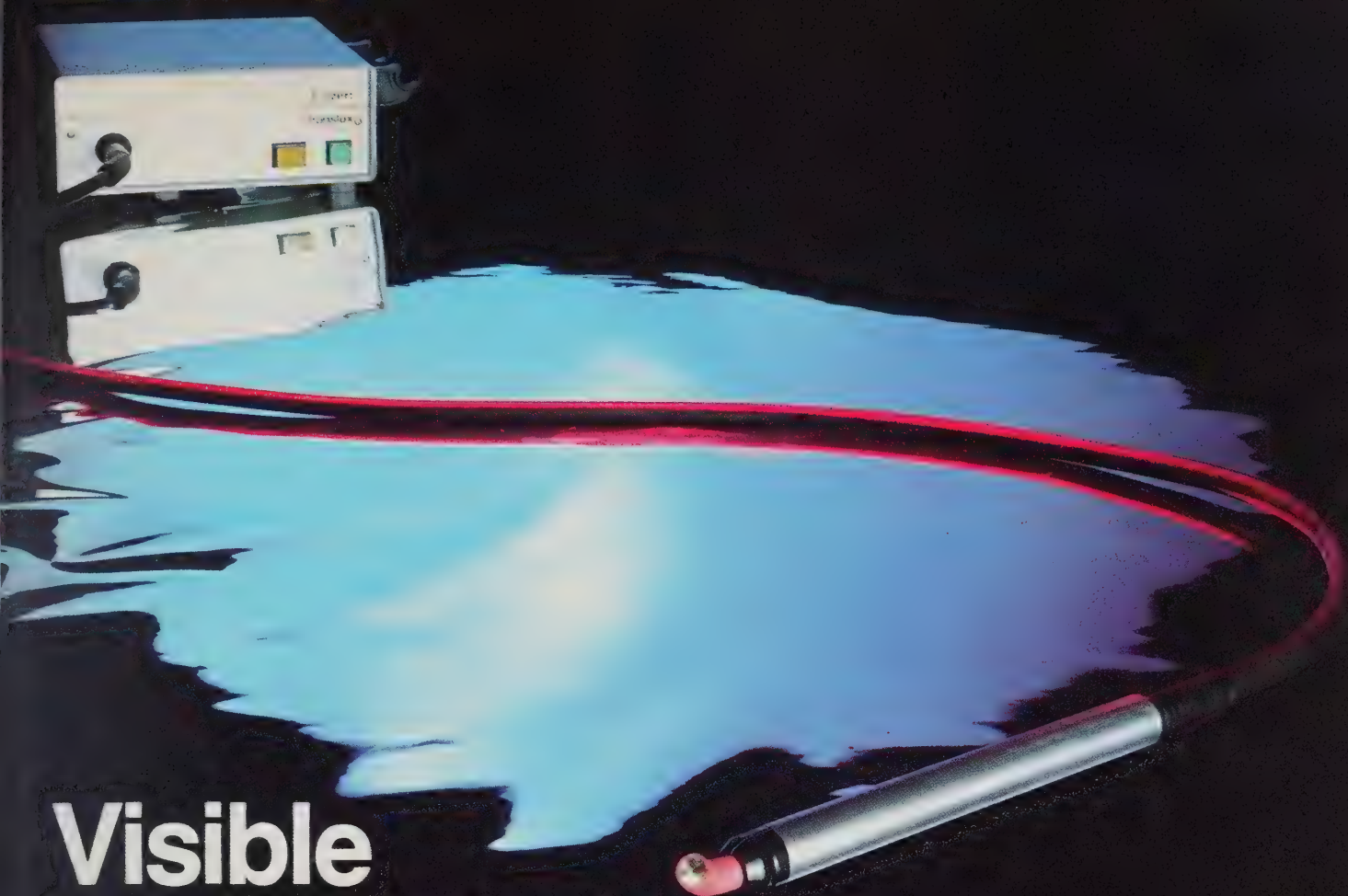
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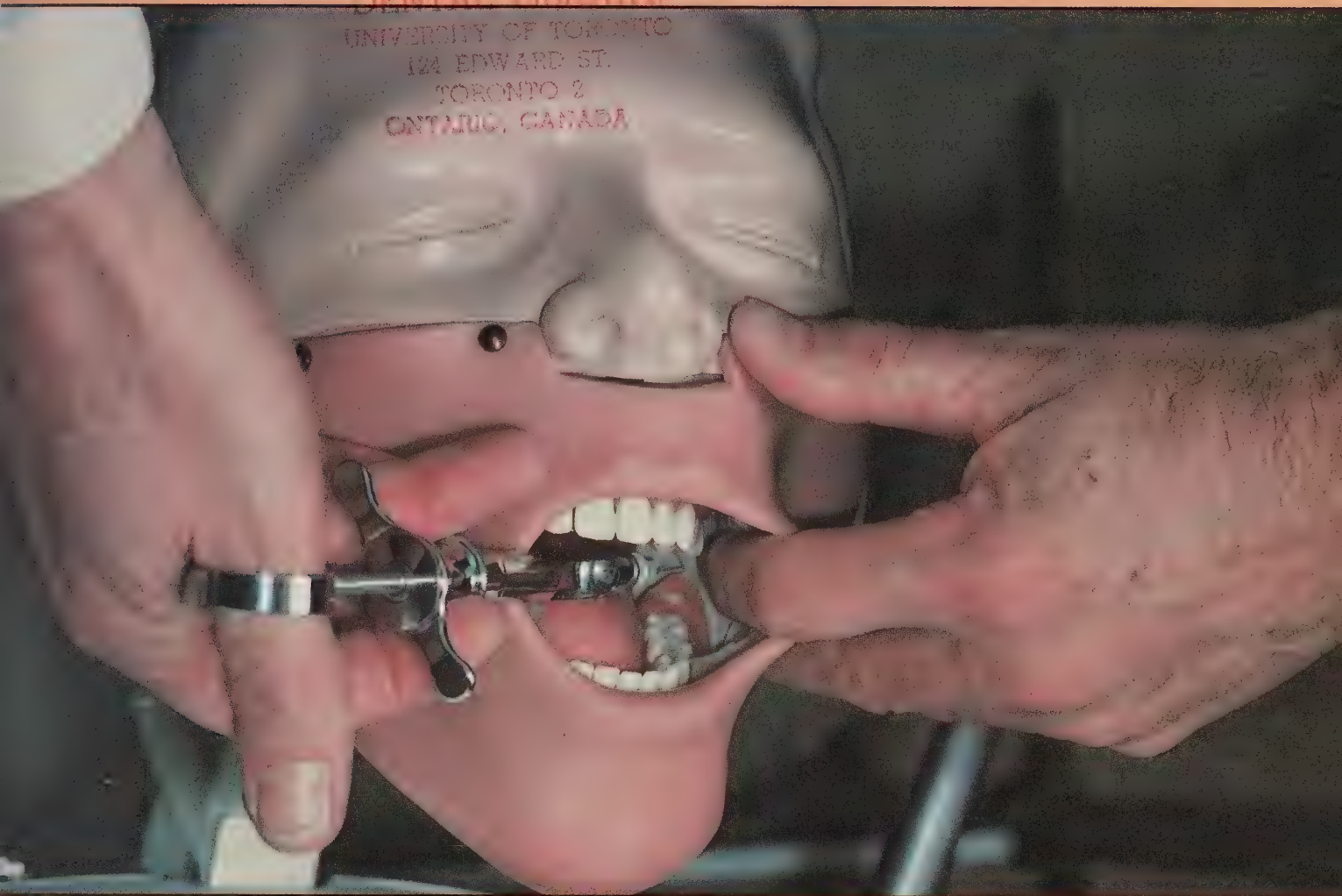
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See Pages 164A, 164B

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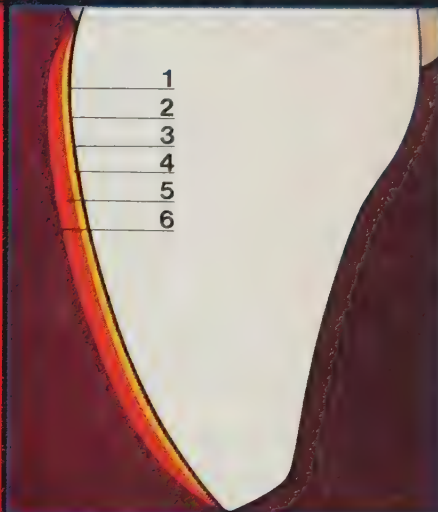
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Editorial

- 149 The Journal editor believes if it is possible for Canadians to become very aware of good physical health then it should also be possible to convince them to develop good dental health habits.

Letter

- 155 Dr. John H. Gryfe feels that Journal book reviewers should not only comment on the contents of books, but also provide related opinions.

In the News

- 156 **Dentist recalls incidents in his practice in 1908**
Ottawa dentist Dr. Thomas Higginson recalls highlights of his practice in the early days of this century, as he approaches his 102nd birthday.

- 157 **FDI Congress and Scientific Report**
CDA President Dr. William R. Thompson reports on proceedings at the FDI Vienna Congress and also, on Canadian representation on the various FDI commissions.

- 163 **Vancouver — site of the 1983 CDA Convention**
Details of the 1983 CDA Convention, being held from September 25 to 28, are taking form.

- 165 **About Wine**
Prominent Canadian wine columnist, Michael Roberts, traces trends in wine preferences and recommends certain vintages in the first CDA Journal wine column.

- 167 **General Insurance — Loss Prevention — CDSPI**
CDSPI points out ways in which dentists can slow down the escalating number of claims in this category of coverage.

Briefly

- 171 Dental news items from across Canada and around the world, are highlighted.

Article

- 173 **The Undergraduate elective in Hospital Dentistry — an innovative educational experience**
A recently-instituted undergraduate program in hospital dentistry has been arranged between McGill and Ohio State Universities, and details are explained by Dr. Mervyn Gornitsky.

- 175 **Credit cards acceptable in nine of Canada's provinces**
Credit card payment of dental accounts is considered ethical in all provinces except Ontario, where the matter is presently under government consideration.

Dental Education

- 177 **The Genesis of a national interview study**
— W. R. Teteruck
181 **Development and implementation of a structured interview for dental admissions**
— Marcia A. Boyd et al

CDA Resource Centre

- 187 A listing of articles available on the subject of Dentists and Stress, and also, newly-acquired library resources, available for loans.

Publications

- 198 **Human Disease for Dental Students**
"This useful book represents concise notes based on an integrated course on human disease given at Bristol Dental School." — David S. Gardner

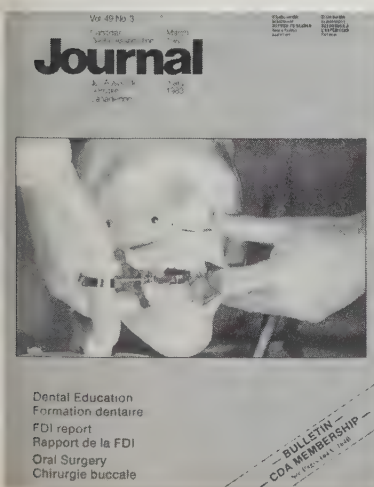
Atlas of Operative Dentistry
"This publication remains an outstanding student reference text with the basic concepts presented in a clearly understood format." — E.R. Ambrose

- 199 **Oral Surgery in Dental Practice**
"For a general practitioner who likes to perform a number of procedures in the field of minor oral surgery, this book could be a very useful reference." B.K. Aaron

Scientific

- 200 **Facial artery calcification: a case of its clinical significance**
— Dale A. Miles et al
188 RRSP
167 Obituaries
208 Marketplace
210 Announcements
212 Adventurers' Index

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Dental
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report

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Journal

de l'Association
Dentaire
Canadiennemars
1983

Editorial

- 150 Selon le rédacteur en chef, s'il est possible de rendre les Canadiens conscients de l'importance de rester en bonne santé, il devrait être également possible de les convaincre d'adopter de bonnes habitudes en matière d'hygiène dentaire.

Actualités

189 FDI — Congrès et rapport scientifique

Le président de l'ADC, le Dr William R. Thompson, présente un rapport sur le Congrès de la FDI tenu à Vienne et fait état de la représentation canadienne auprès des diverses commissions de la FDI.

193 Vancouver — site du Congrès de l'ADC 1983

Les préparatifs sont en cours de pour la tenue du Congrès de l'ADC à Vancouver, du 25 au 28 septembre 1983.

194 Assurance générale — protection contre les pertes — CDSPI

Les CDSPI offrent des conseils pour réduire le nombre des réclamations touchant les pertes encourues par les dentistes.

195 Neuf provinces acceptent la carte de crédit

À l'exception de l'Ontario, où le sujet est mis à l'étude par le gouvernement, toutes les provinces canadiennes considèrent que le règlement d'une facture dentaire au moyen d'une carte de crédit est conforme à l'éthique.

196 En bref

Un tour d'horizon des principales informations dentaires au Canada et dans le monde.

187 CDA Centre de documentation La Bibliothèque et le Centre de documentation de l'ADC donnent une liste des publications disponibles sur les dentistes et le stress.

Scientifique

203 Kyste odontogène calcifiant — rapport de cas

— M. Chagnon et al

190 REER

167 Nécrologie

190 REER

208 Avis

210 Petites annonces

212 Index des annonceurs

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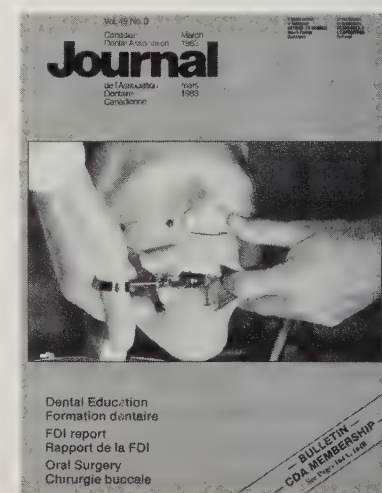
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La direction du Journal ne partage pas nécessairement les opinions qu'expriment ses collaborateurs à moins que l'Association Dentaire Canadienne ne les ait adoptées officiellement.

NATIONAL DENTAL HEALTH MONTH

Canadians are becoming more aware of the importance of maintaining good physical health. Bulges in the waistline and hips are a distinct embarrassment in this keep-fit, "PARTICIPAction" era.

But what of dental health?

Because it does not threaten life, dental health has not yet gained high priority as a major concern of the average Canadian.

Yet, neglect of dental care can ruin health.

And it can ruin that good, overall appearance so many people strive to attain these days, through rigorous exercise and proper dieting.

"SMILE, CANADA — APRIL IS NATIONAL DENTAL HEALTH MONTH" is this year's slogan.

A person may achieve that slimmer silhouette and feel much more fit, but if he or she opens his or her mouth and reveals poor dental health, the strict physical regimen is all for naught.

It is obvious that Canadians are not learning this lesson quickly enough. The percentage of Canadians who never enter a dentist's office has declined very little in recent years — if at all.

Seventeen per cent of Canadians between the ages of three and 18 have NEVER been to a dentist. Close to 68 per cent of Canadian children suffer from inflammation of the gums, and, by the time they reach school age, about 65 per cent have tooth decay. At least 25 per cent of Canadians 19 and over have lost all their natural teeth, a figure which doubles for those who are 60 and over.

That is why the Canadian Dental Association, the provincial associations and your local dental societies, along with other public health organizations and government agencies, consider the need for dental health awareness so important.

National Dental Health Month's thrust is to create and build a much higher level of dental health awareness right across the country.

The intent is that this awareness should last for 12 months of the year — not just one.

The extent to which this message is heeded and imparted into the public consciousness depends largely upon the level of participation of the individual practitioner.

Get involved in spreading the message!

If you are curious about what this message really is and how it is being communicated, get in touch with the Canadian Dental Association headquarters in Ottawa, your local society, or provincial association.

Get your personal kit and participate. Make full use of all the campaign material.

A great deal of time, thought and expertise has been devoted to the preparation of material in the NDHM kits distributed by the CDA to help plan local campaigns.

Don't be caught as a private practitioner — an influential force in your community — not knowing the objectives of National Dental Health Month. Learn the details. See to it yourself that the campaign is conducted properly and effectively in YOUR community.

To be truly effective, the NDHM message must filter down to the grass roots — the general public.

The desirable effect is crucial to the future of dentistry in Canada.

That effect is that it might persuade much more of that 40 per cent of the population that does not seek regular dental treatment to alter its habits.

Achievement of this goal is not impossible.

But the possibility is greatly reduced unless there is whole-hearted support of the campaign. It could well avoid some of the difficult times ahead for many private practices in this country.

If it is possible to achieve a massive awareness of the importance of good physical health among Canadians, then it should be equally possible to achieve success in impressing the necessity of good dental health — and a healthy smile.

If many Canadians are ashamed of their smile, they are likely to begin thinking about their dental health.

The tools are available to assure the success of NDHM. And if the campaign is as successful as it deserves to be, then you, the private practitioner, will also have something to smile about.

Clarence Metcalfe
CDA Journal Editor

LE MOIS NATIONAL DE LA SANTÉ DENTAIRE

De plus en plus, les Canadiens se rendent compte qu'il est important de conserver une bonne santé physique. En un temps où PARTICIPaction est devenu un mot d'ordre et où il convient de se maintenir en forme, ventres saillants et sièges proéminents sont une cause réelle d'embarras.

Mais l'hygiène dentaire?

Parce qu'elles ne sont pas fatales, les maladies dentaires paraissent négligeables pour le Canadien moyen.

Pourtant, en négligeant sa santé dentaire, on risque de ruiner sa santé générale.

En outre, on risque très certainement de gâter une apparence qu'il est difficile de préserver par des exercices rigoureux et une saine alimentation.

Cette année, le thème de la campagne est; "Sourions à pleines dents — Avril est le Mois national de la santé dentaire."

Une personne peut avoir une taille élégante et se sentir bien, mais si sa bouche trahit une mauvaise hygiène bucco-dentaire, la discipline qu'elle s'impose ne rime à rien.

Malheureusement, il appert que les Canadiens sont lents à saisir cette vérité. La moyenne de ceux qui ne rendent jamais visite au dentiste a peu ou n'a pas du tout baissé durant les dernières années.

On compte 17 pour cent de Canadiens qui, de trois à 18 ans, n'ont JAMAIS visité un dentiste. Près de 68 pour cent des enfants du pays souffrent de gingivite et, lorsqu'ils atteignent l'âge scolaire, environ 65 pour cent ont des caries. Au moins 25 pour cent des Canadiens âgés de 19 ans ou plus ont perdu toutes leurs dents naturelles et cette moyenne double pour les gens âgés de 60 ans ou plus.

C'est pourquoi l'Association dentaire canadienne, les associations provinciales et les sociétés dentaires locales, de même que les autres organisations publiques de la santé et les agences des gouvernements, considèrent qu'il est très important qu'on prenne conscience de l'hygiène dentaire.

Et surtout, on voudrait que l'effort fait en ce sens se poursuive durant les douze mois de l'année et non seulement durant un mois.

Il va de soi que la diffusion du message dépend largement de chaque dentiste et de son degré de participation à la campagne.

Participez donc à la diffusion du message!

Si vous désirez savoir quel est réellement ce message et comment le répandre, communiquez avec l'Association dentaire canadienne, à Ottawa, avec votre association provinciale ou avec votre société locale.

Obtenez votre propre pochette de renseignements et prenez part à la campagne. Utilisez pleinement tout le matériel mis à votre disposition.

La préparation du matériel rassemblé dans la pochette de renseignements que distribue l'Association dentaire canadienne pour aider à planifier les campagnes locales a exigé beaucoup de temps, de réflexion et de savoir-faire.

Ne vous laissez pas surprendre en tant que praticien privé — une force majeure dans votre communauté — en ne connaissant pas les objectifs du Mois national de la santé dentaire. Renseignez-vous complètement. Voyez vous-même à ce que la campagne soit bien menée dans VOTRE communauté.

Pour être vraiment compris, le message de la campagne doit être bien répandu et atteindre le public en général.

Les résultats de la campagne importent grandement pour l'avenir de la dentisterie au Canada.

En effet, il s'agit de persuader la partie de la population — plus de 40 pour cent — qui ne visite pas régulièrement le dentiste et de la convaincre de changer ses habitudes.

Cet objectif peut être atteint.

Toutefois, les chances de succès seront grandement réduites si les dentistes n'apportent pas à la campagne un appui enthousiaste. Il leur faut songer qu'il s'agit pour eux d'écarter les temps difficiles qui attendent un grand nombre de praticiens privés au Canada.

S'il est possible d'amener l'ensemble des Canadiens à se rendre compte de l'importance d'une bonne santé physique, il est également possible de leur faire comprendre la nécessité d'avoir une bonne hygiène bucco-dentaire et d'afficher un sourire resplendissant de santé.

Si de nombreux Canadiens craignent de sourire à cause de leurs mauvaises dents, il se peut qu'ils s'interrogent au sujet de leur hygiène dentaire.

Nous disposons tous des outils nécessaires pour faire du Mois national de la santé dentaire un succès. Et si, comme il se doit, la campagne est une réussite, chaque dentiste aura vraiment sujet de se réjouir et de sourire.

*Le rédacteur en chef,
Clarence Metcalfe*

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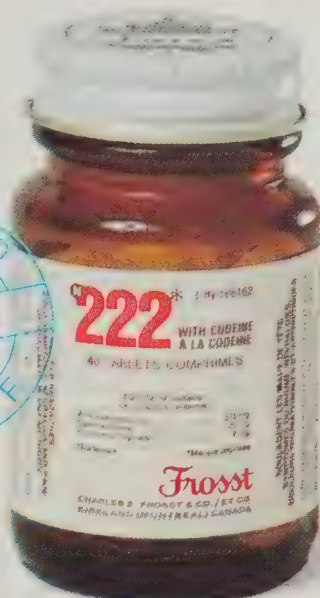
Recommended for over sixty years to provide relief of mild to moderate pain of headaches, sprains, trauma, dental and minor surgical procedures.



222*

TABLETS

(acetylsalicylic acid, caffeine citrate, codeine phosphate)



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COVER PHOTO

A world first at UBC school

This month's cover illustration depicts how students at the Faculty of Dentistry, University of British Columbia, are learning clinical procedures with the aid of a new research teaching simulator," the first of its type in the world.

This new teaching simulator, developed and manufactured for the University of British Columbia by the Morita Corporation in Japan, in association with Dr. Daryl Beach, allows for a unique type of training never before available in dental teaching and research.

"The patient, represented by a phantom head, has a specific position at a given distance from the operator's hands and eyes," Dean J.S. Beagrie said. "In this way, all clinical procedures are taught in conditions of optimum efficiency. Position of the operator, as well as the correct hand positioning, are governed.

"The phantom mouth of the simulator contains a tongue, lips, cheeks and palate, as well as jaws and teeth. Opening, closing and lateral movement of the jaws conforms to movements in the human skeleton. An artificial mucosa and periosteum over and around the jaws, allows the teaching of local anaesthetic injection techniques, as well as a full range of surgical procedures.

"The benefit of this new apparatus is that it provides a research tool without parallel for clinical teaching and evaluation. Students can be taught by the standard method or by audio cassette, individually, or as a group, through codified language. Thus," Dr. Beagrie concluded, "economics in dental undergraduate teaching starts with the first day of training."

Ideal as it all may sound, Dr. Beagrie explained that this teaching process is "still in its infancy. We haven't got it 100 per cent off the ground. Development is still going on."

Personal opinions in reviews

As a periodic contributor to the C.D.A. Journal, I would like to comment on a recent review of Dr. Bernard Liebgott's new textbook, the *Anatomical Basis of Dentistry*, reviewed by Dr. J.W. Osborn in the December 1982 Journal. In his review, Dr. Osborn has pointed out that this new textbook has few comparable volumes in the field at present and I can only agree most wholeheartedly with this assessment.

I have always felt that the review of a book should not only include comments on the book and the author, but should perhaps reflect certain related opinions that the reviewer might have. In this regard, I think that Dr. Osborn's comment regarding the

"disgracefully over-used technique for testing university students" that refers to multiple choice questionnaires is most appropriate.

There seems to be a continuing decline in the ability of most university educated students to read and write the Queen's English in anything more than a barely passable way. There would probably be a significant improvement if university students could revert more often back to the use of essay type questions on their examinations. This I feel would stress the minutia and semantics of education less, and encourage the acquisition of knowledge more.

John H. Gryfe
DDS, FRCD (C)

NDEB marks 30th anniversary



Members of the National Dental Examining Board of Canada who attended the November (1982) Annual Meeting, also observed the 30th anniversary of the existence of the NDEB. During the session, they posed for the above photograph. They are, front row, left to right: Drs. H. M. Dick (Alberta), N. J. Layton (Nova Scotia), G. Kravis (Registrar), R. Coulombe (Québec), W. H. O'Driscoll (Newfoundland) and R. B. Gilliland (Saskatchewan). Standing, left to right: Drs. R. E. Jordan (Ontario), G. W. Myers (CDA, Council on Education), R. B. McAlpine (British Columbia), K. C. Bentley (CDA Council on Education), C. LeBlanc (New Brunswick), B. Goldberg (Manitoba), A. MacLean (Prince Edward Island), and Mr. A. Thivierge (CDA Student Representative)

Dentist recalls incidents in his practice in 1908

It would be a bit difficult for most dentists to recall details of work done for patients in 1912.

Dr. Thomas Higginson of Ottawa, Ont., can do so, and with little difficulty. In fact, he can recall some incidents in his practice in 1908, when he was just a "young fellow."

This is because Dr. Higginson was born on August 21, 1881, in Hawkesbury, Ont., about 100 km east of Ottawa.

The alert centenarian-plus graduated from the University of Toronto dental school in 1908. He joined a Dr. Fiseault in his practice in downtown Ottawa in the same year, and by 1912, had bought out the practice.

Office nurse paid \$8 weekly

Dr. Higginson recalls that he paid his office nurse \$8 for a six-day week in 1912. He said she was very helpful because she spoke French and the practice was located in a neighborhood where many residents spoke only French.

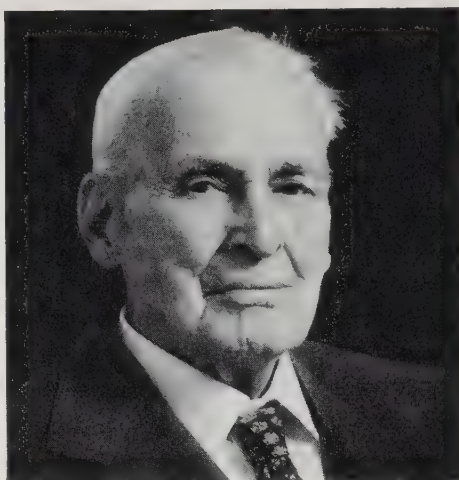
When she had learned some dental office procedures, the nurse's salary was increased to \$25 weekly.

Dr. Higginson's fee schedule was quite reasonable. He charged \$2 for an extraction, \$1 for a filling and \$50 for a complete set of dentures.

He recalls that he paid \$20 an ounce for gold, and was reputed to be the second highest user of gold in dental practice in the City of Ottawa.

He told the Journal that in the early days of his practice, many of his patients from rural areas came to Ottawa by boat, via the Ottawa River, landing at a dock not too far from his office and walking the rest of the way.

He retired from his practice in 1957. However, it was not by choice. The building in which he had practiced



Dr. Thomas Higginson

was being taken over by new owners, and "I was kicked out," he said. He would have willingly gone to another

location, but after nearly 50 years in practice, his family persuaded him it was an appropriate time to retire.

Dr. Higginson has four children, 11 grandchildren and nine great grandchildren. In 1977, just a few months before the death of his wife, the couple celebrated their 65th wedding anniversary.

An avid curler, he is a life member of the Governor-General's Curling Club, and skipped his rink to many victories between 1935 and 1941.

He is also a boating enthusiast and served some time as commodore of the Ottawa yacht club.

The Journal introduces a wine columnist

Michael D. Roberts, one of Canada's foremost wine consultants, will, beginning in this edition, offer his expertise and recommendations to members of the dental profession.

The author of several special publications about wine, Mr. Roberts writes articles and columns for a number of newspapers, magazines and periodicals across Canada.

He also acts as wine commentator on a television program which originates in Ottawa.

A familiar figure at wine festivals in Western Europe, he has been invited by the governments of Italy, Germany, Portugal and Austria, to visit their wine-producing districts and as a special guest at festivals and competitions. The government of Chile also extended a similar invitation.

He has served as a member of panels of judges at wine competitions, both at home and abroad, and he has been awarded international honors as a connoisseur of quality vintages.



Michael Roberts

Mr. Roberts acts as wine consultant to a number of major hotels and restaurants and is in demand as a speaker to service and business organizations on the subject of wine.

FDI Congress and Scientific Report

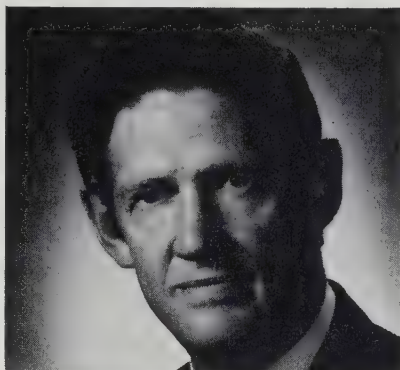
Venna Congress — October 1982

Fifty-six countries sent official delegates to the General Assembly in Vienna and many other countries were represented by the attendance of individual dentists. The Canadian Dental Association was officially represented by Dr. William R. Thompson, President and National Treasurer, and Dr. Donald E. Williams, Past President.

The official attendance was 4,427 dentists from 79 countries with an overall total of 9,253 (including spouses, students, trade exhibit personnel etc.) There were 362 Canadian delegates which placed Canada sixth behind the Federal Republic of Germany, Sweden, U.S.A., Austria and the Netherlands and slightly ahead of Japan and France).

Dr. T. Aggeryd of Sweden remains in his second year as President. He does the President-Elect, Dr. J. Gardin  of France. Professor George Lagrie, Dean of the University of British Columbia, Faculty of Dentistry, continues as Chairman of the Commission on Dental Education and Practice, one of the four FDI Commissions. Dr. Ross (New Zealand) and Dr. Telivuo (Finland) were elected to the FDI Executive Council. Dr. Telivuo is the first male dentist to be so elected. Nine Canadian consultants were elected to Commissions as follows: Commission on Oral Health, Research and Epidemiology — Dr. G.S. Lagrie, Dr. W.R. Bedford, Dr. J.S. Hamm, Dr. D.W. Lewis; Commission on Dental Education and Practice — Dr. D. Donaldson, Dr. G. Travis, Dr. M.F. Williamson; Commission on Defence Forces Dental Services — Brigadier General J.N. Wright and Dr. W.R. Thompson. Dr. N. Curry completed his term on the Commission on Oral Health, Research and Epidemiology in 1982.

By Dr. William R. Thompson
President, CDA



The CDA delegates attended General Assembly A, General Assembly B, the National Treasurers meeting, the Question Time as well as numerous Committee meetings and also met with the American Dental Association observer and many other national delegations.

The above meetings discussed many concerns of the FDI, not the least of which were commission working group activities, methods of improving supporting membership, the overall financial position of the FDI in view of the American Dental Association's withdrawal in 1982 and of course many aspects of the scientific programs of the FDI, some of which are outlined below.

The financial position of the FDI was severely affected by the loss of subscription income from the American Dental Association withdrawal necessitating use of reserve funds in 1982 and an emergency budget to reduce expenditures. The FDI Executive Council also reviewed all aspects of the organization and has instituted many financial, organizational and procedural improvements.

The American Dental Association at its recent (Nov. 1982) meeting felt that the FDI had responded positively to improve the organization and effective **January 1, 1983 has rejoined the FDI.**

The FDI is also forming a subsidiary called the FDI Association for Education, Science and Health Development. This Association will have an Advisory and Ethical Committee for use on a consulting basis. One U.K. firm, the International Dental Services Organization, which will build and staff dental clinics in the Middle East and other areas, will utilize such services in 1983, resulting in non-dues revenue to the FDI.

Scientific Activities

Although the activities of the four FDI Commissions, which were reported in the December 1981 CDA Journal, have been further developed, expanded or completed, and many new activities initiated, this year's report will concentrate only on those FDI activities which are being developed in conjunction with the World Health Organization (WHO).

(1) Oral Health in the Year 2000

This massive project is part of the WHO 'Health for all in the year 2000' and its aim is to define measurable goals in the field of prevention and treatment for oral disease from now to the year 2000 for the entire population of every country and to make every effort to achieve such goals.

(2) Changing Patterns of Oral Health

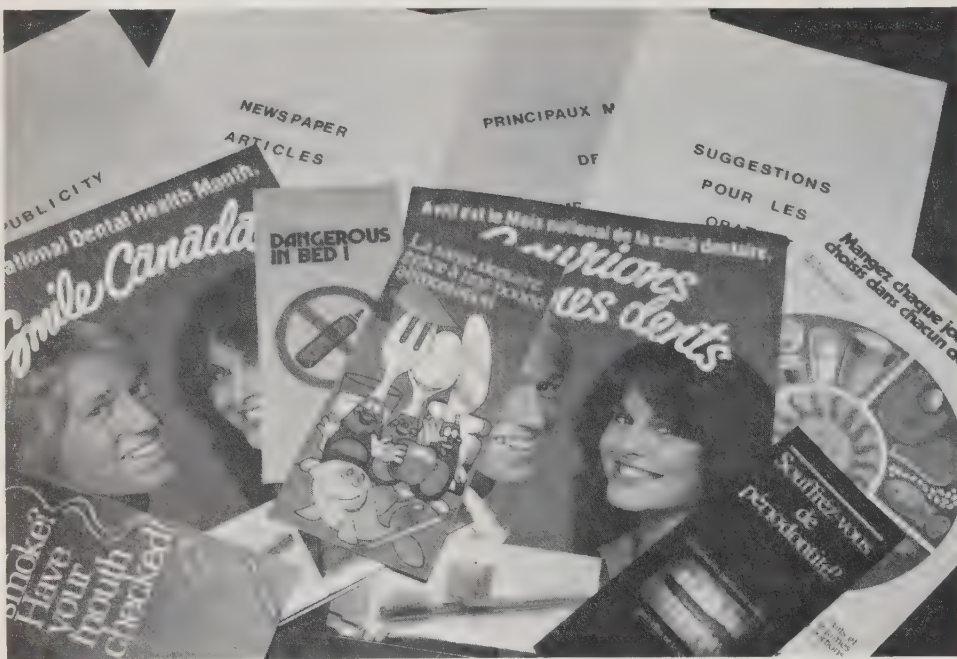
To study the dental situation in selected industrialized countries regarding the pattern of demand for dental care, the factors affecting demand and the steps being taken to increase demand. The study will also review the situation in many developing countries where the dental condition is deteriorating.

(3) Dental Manpower

To review the information available within the FDI and WHO

Continued on next page

NDHM campaign kits available from CDA



NATIONAL DENTAL HEALTH MONTH kits are available from the Canadian Dental Association headquarters, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6. This photograph indicates some of the titles of material in the kit which enables anyone to organize an effective community campaign.

- Photo by Heather Lang-Russell

FDI continued

on dental manpower in relation to population. This study will work closely with the foregoing study and will produce guidelines on the principles involved in dental manpower planning.

(4) International Collaborative Oral Health Development Project

To facilitate opportunities for dentists from industrialized countries to work in developing countries. The main emphasis of this project will be focussed on health promotion, the prevention and treatment of oral diseases and the training of personnel from the developing countries to undertake some of the preventive aspects. The project will involve dentists from developed countries, where necessary partly or wholly financed by such countries, going to work for a specific period in developing countries which are short of trained manpower.

(5) Integrated Planning of Oral Health Services with Special

Attention to Periodontal Disease — Leader — Prof. G.S. Beagrie — Vancouver

To develop estimates of the time required to provide various periodontal services; to assess the relative reliability of alternate choices of teeth in periodontal assessment and to proceed with the publication of the Community Periodontal Index of Treatment Needs. This study was completed prior to the Vienna Congress and will now be published. Its major importance is that it will provide general practitioners with a much simplified instrument for quickly assessing periodontal treatment needs.

(6) Statistical Methodology Applied to Dental Epidemiology

To study methods of improving studies on dental epidemiology, the identification of dental data banks throughout the world and a literature review on Statistical Methodology Applied to Dental Epidemiology.

Future Congresses

(1) 1983 — Tokyo, Japan — Nov 14-19

1984 — Helsinki, Finland Aug. 25-31

1985 — Belgrade, Yugoslavia

1986 — Manila, Philippines

Attendees must be supporting members of the FDI

(2) The 1983 Tokyo Congress has now been fully developed with the main theme being 'The Longevity of the Human Dentition' with emphasis on preventive measures for preserving such longevity and recent advances in Dental Care delivery which contribute.

Canadian Supporting Membership

Supporting memberships in the FDI are now available for Canadian dentists for \$35.00 (Can.) or in conjunction with a subscription to the International Dental Journal for \$60.00 (Can.) Requests for membership should be sent to CDA headquarters and if a preliminary program for the Tokyo Congress is requested it will be despatched with your membership card.

FEDERATION DENTAIRE INTERNATIONALE MEMBERSHIP

Membership in the Federation Dentaire Internationale for 1983 is now open for new or renewed membership. Supporting membership from Canada and attendance at the Vienna Congress in 1982 was significant and it is hoped that such support will continue. After the March 1983 issue, only those who renew their membership will continue to receive the Newsletter and in addition, it is necessary to be a supporting member to attend the outstanding Congress planned for Tokyo, Japan on November 14-20, 1983.

Registrants to FDI world congresses must be supporting members of the Federation. To be eligible for supporting membership, Canadian dentists must be members of the Canadian Dental Association.

The subscription fee is \$35 (Canadian) or in combination with a subscription to the International Dental Journal \$60 (Canadian). We urge you not only to become a member but to encourage your colleagues to join as well.

Your membership fee is your contribution in support of FDI in its efforts to promote improved dental health on a worldwide basis in direct exchange of scientific knowledge and expertise. A portion of the fee will also be used by the CDA to offset administrative expenses associated with the FDI membership program.

Please return the attached form with your remittance without delay to the Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6.

Application forms for the Tokyo Congress will be sent with your receipt and 1983 membership card.

CANADIAN DENTAL ASSOCIATION
1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6

MEMBERSHIP APPLICATION FEDERATION DENTAIRE INTERNATIONALE

To develop contacts with dentists from around the world

To be part of your profession's voice in the international community

Fees include administration cost, U.S. premiums, CDA representation to FDI

_____ \$35 FDI Supporting Membership will receive the Quarterly FDI Newsletter and Membership Card

_____ \$60 FDI Supporting Membership and Subscription to International Dental Journal

NAME _____ ADDRESS _____

THIS IS NOT A LICENCE FEE, this is your remittance for annual supporting membership.

Please return this form with your remittance payable to CDA. A receipt and membership card will be issued.

TODAY'S COLGATE: TWO FLUORIDE REMINERALIZATION.

Today's Colgate was developed on the principle that if a toothpaste combines two fluorides which act differently, it may provide enhanced remineralization over a single fluoride toothpaste. We believed this would result in fewer cavities for your patients than ever before.

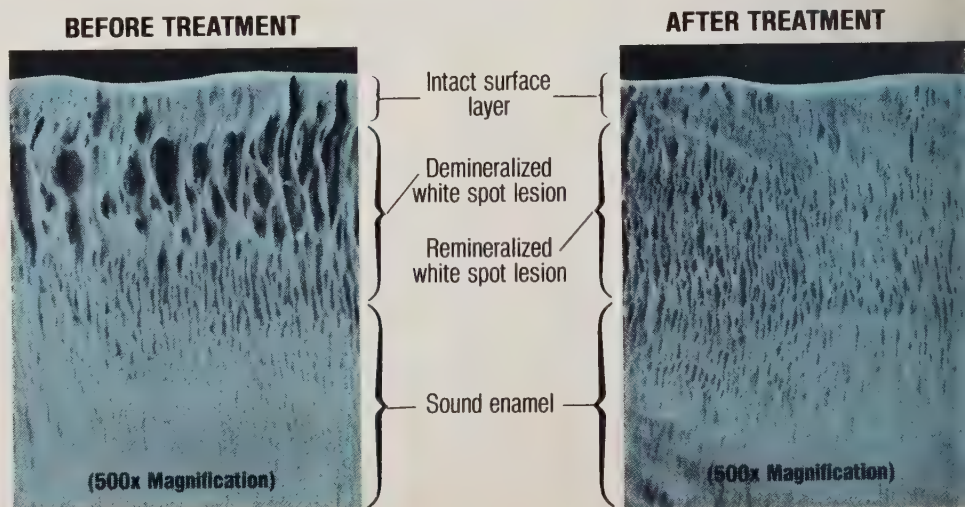
REMINERALIZATION.

Remineralization is the reversal of the demineralization process before a white spot lesion becomes a cavity (1). Studies have indicated that the presence of fluorides in demineralized enamel improves the natural remineralization process (2-5).

COLGATE'S TWO FLUORIDE STUDY.

In vitro studies (6) on demineralized enamel show that treatment with Colgate's combination of sodium monofluorophosphate and sodium

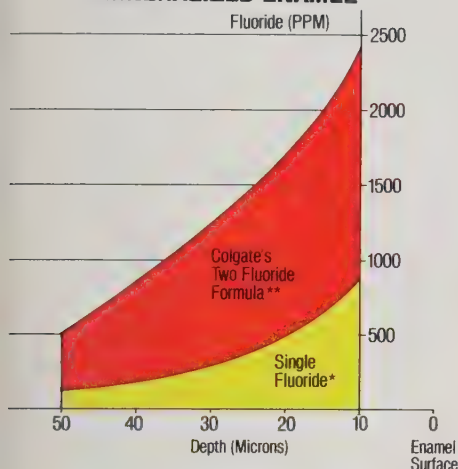
fluoride** actively promotes more complete remineralization of white spot lesions than a single fluoride formulation*. This improved remineralization of white spot lesions, we believe, ultimately leads to a greater reduction in cavities.



HOW TWO FLUORIDES REMINERALIZE MORE COMPLETELY.

Laboratory research shows that Colgate's combination of sodium monofluorophosphate at 0.76% and sodium fluoride at 0.10% delivers significantly more fluoride deeper into demineralized enamel, thus providing superior conditions for remineralization.

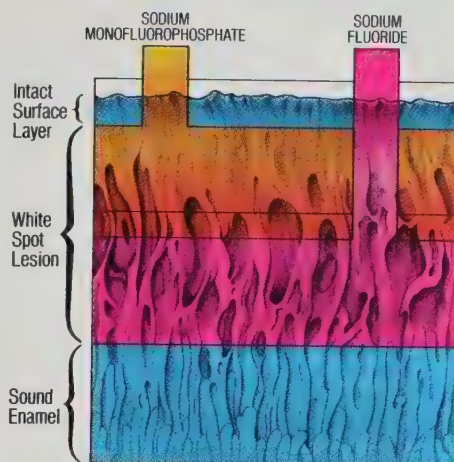
FLUORIDE UPTAKE BY DEMINERALIZED ENAMEL



Within the white spot lesion, sodium monofluorophosphate remineralizes enamel primarily at the surface while sodium fluoride penetrates deeper to remineralize sub-surface regions. This combined remineralizing action

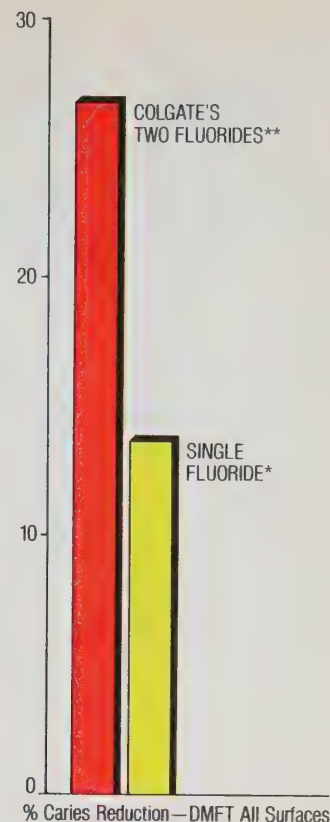
of Colgate's two fluoride formula promotes more complete remineralization of white spot lesions than a single fluoride formulation.*

REMINERALIZATION ACTION OF COLGATE'S TWO FLUORIDES



COLGATE'S CLINICAL PROOF.

The results of a three year clinical study (7) show that Colgate's combination of two fluorides provides significantly greater reduction in caries. In vitro research indicates that this results from more complete remineralization of white spot lesions before they progress to cavities.



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We believe that Colgate's two fluoride formula is an innovation in preventive dentistry. By including Colgate in your Oral Hygiene Instruction, you will be recommending cavity protection that you can trust.

REFERENCE

1. Backer-Dirks, O., J. Dent. Res., **45**, 503-511, 1966.
2. Von Der Fehr, F.R. et al, Caries Res., **4**, 131-148, 1970.
3. Levine, R.S., Brit. Dent. J., **138**, 249-253, 1975.
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5. Silverstone, L.M., Proc. Roy. Soc. Med., **65**, 906, 1972.
6. Colgate-Palmolive, Internal Studies.
7. Hodge, H.C. et al, Brit. Dent. J., **148**, 201-204, 1980.

* Sodium monofluorophosphate (0.76%)

** Sodium monofluorophosphate (0.76%) and sodium fluoride (0.10%)



† "Colgate Toothpaste contains sodium monofluorophosphate and sodium fluoride which are, in our opinion, effective decay preventive agents and are of significant value when used in a conscientiously applied program of oral hygiene and regular professional care."

Canadian Dental Association



PARTNERS IN PREVENTIVE DENTISTRY.

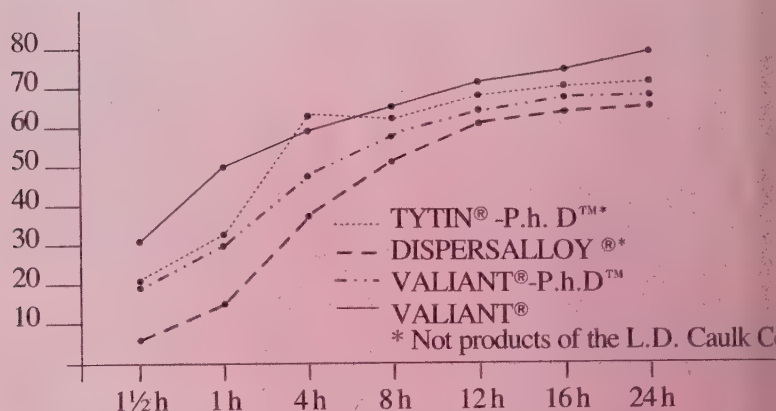
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Vancouver — site of 1983 CDA Convention

Man has created much of the charm of the City of Vancouver, but Nature has enhanced it to a much greater degree with a spectacular backdrop.

This city, which is Canada's third largest metropolis, is the setting for the 1983 Canadian Dental Association national convention.

The Convention is being held September 25 to 28.

City fathers with a sense of history have retained some quaint evidence of the city's rowdy, rollicking and rustic past, but Vancouver is now a centre of urban sophistication, with fine hotels, gastronomic delights in a wide variety of dining experiences, extensive shopping facilities, theatres, art galleries, museums, universities, recreation facilities and beautiful parklands — all set against a backdrop of towering mountains.



Vancouver — a city of man-created and natural beauty.

CDA Convention organizers are anticipating a record attendance, as they plan events. And the attraction of the locale will undoubtedly be a major factor in the popularity of the September gathering.

The CDA Journal will, over the

next few editions, advise of the details of Convention events, as they become finalized.

In the meantime, in view of the numbers the Convention is likely to attract, it would be wise to begin laying plans to attend as soon as possible.

Program details are taking form

Convention program details are rapidly being finalized.

The program, including scientific presentations, panel discussions, table clinics, an unusually wide range of exhibits, social events, a sports program and even a keep-fit session, will ensure no dull moments for dentists and spouses.

The scientific presentations include on Monday Sept. 26:

- The Grieve Memorial Lecture
- An Occlusion Panel
- The RCDC Symposium on Periodontal Diseases
- An Oral Surgery Panel
- An Infection Control Panel
- Sessions on Fixed Prosthodontics, Occlusion
- Removable Prosthodontics

On Tuesday September 27:

- CDA's Teaching Conference: Practice Management
- A Cancer Control Panel
- A Periodontics Panel
- And presentations on Restorative Dentistry, Intra-Oral Photography and the Future of Dentistry.

On Wednesday September 28, CDA's Teaching Conference on Practice Management will again be presented along with sessions on Periodontics and Forensic Dentistry. There will also be a morning session on Tax Shelters and Investments.

Table clinics

Table clinics and student table clinics will be conducted on Tuesday afternoon and Wednesday morning.

Social Program

The Convention social program will be kicked off on Sunday evening with an informal registration party for delegates. Another informal evening is planned for Monday.

The President's extravaganza — including dinner, cocktails and dancing — is being arranged for Tuesday evening September 27.

For the fit, sports-minded delegates, the annual Funn Runn is again being organized. This will be held in Vancouver's famed Stanley Park.

Spouses will be able to enjoy a special program of tours, a lecture series, a craft show, a coffee get together and a morning keep fit program.

Most events are being staged at the Hotel Vancouver.

THE AGE OF PALLADIUM

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Accolades from a slightly different school of thought.

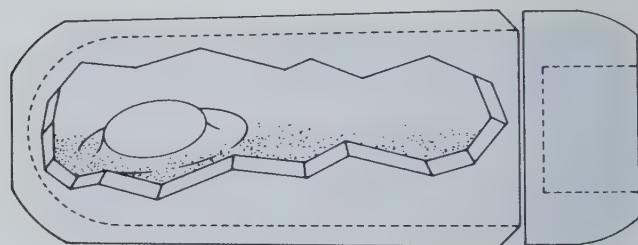
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The spherical component works with the high copper content of the cut component to COMPLETELY eliminate GAMMA II (tin-mercury) compound.

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CROYEZ-LE OU NON VOUS AVEZ BESOIN DE NOUS ET NOUS AVONS BESOIN DE VOUS

La profession dentaire a plusieurs difficultés à surmonter présentement: l'ingérence de plus en plus grande du gouvernement, les problèmes des ressources en personnel et le climat économique actuel. L'ADC peut vous venir en aide dans tous ces domaines. Cependant, pour assurer que nos efforts porteront fruit, il est absolument essentiel que nous ayons votre appui en premier lieu.

Récemment, on nous posait les questions suivantes. Nous vous en fournissons les réponses à titre de renseignements ainsi que pour vous expliquer pourquoi vous devriez, si ce n'est déjà fait, vous joindre à l'ADC.

1. Il est vrai que l'ADC fait des pressions auprès du gouvernement fédéral sur des sujets qui intéressent la profession dentaire. Cependant, a-t-elle du succès?

En 1982, le ministre des Finances voulait prélever un impôt sur les régimes d'assurances dentaire. Des pressions ont été immédiatement exercées pour renverser cette

proposition et l'ADC a réussi à convaincre le ministre de renoncer à cet impôt qui aurait sérieusement nui à la pratique privée au Canada.

2. Qui peut nous aider à combler les vides dans nos cahiers de rendez-vous?

Des sondages récents ont révélé qu'environ 40 pour cent de la population canadienne ne visite pas le dentiste régulièrement. À compter de cette année, l'ADC entreprendra de réduire ce pourcentage. L'association compte lancer un important projet de communications à l'échelle nationale pour renseigner et éduquer le public sur la nécessité de s'occuper davantage de la santé dentaire.

3. Quels avantages obtient-on en participant à un régime national d'assurance?

Si vous ne participiez pas à un régime d'assurance parrainé par l'ADC et votre association provinciale, les primes se-

raient sensiblement plus élevées. L'adhésion à l'ADC est obligatoire si vous désirez continuer à être éligible aux régimes d'assurance de l'ADC.

4. Les négociations de l'ADC avec le gouvernement fédéral, avec le ministère des Finances et Revenu Canada par exemple, sont-elles efficaces?

Elles sont très efficaces. Les déductions des dépenses raisonnables en éducation permanente, la réduction des droits de douane sur les matériaux dentaires, l'enquête effectuée au sujet des vérifications des cabinets dentaires par le gouvernement fédéral et un nouveau projet pour améliorer les REER des dentistes ne constituent que quelques exemples.

5. Pourquoi devrais-je me joindre à l'ADC?

Les réponses aux deux premières questions devraient suffire à justifier votre contribution en 1983.

Afin de continuer à compter des succès, l'Association dentaire canadienne doit représenter tous les membres de la profession.

Nous avons besoin de votre appui... et vous avez besoin d'une forte organisation nationale.

BELIEVE IT OR NOT — YOU NEED US AND WE NEED YOU

Today dentistry is facing difficulties in many areas: increasing government interference; manpower problems and the current economic situation. The CDA can assist you in all these areas, but first . . . your support is absolutely essential to ensure the effectiveness of our efforts.

The following questions have recently been asked of us. The answers are being provided here to inform you and to explain why, if you have not already done so, you should become a member of the CDA.

1. Sure, CDA lobbies the federal government on matters of concern to the dental profession, but how successful are they?

In 1982 the Minister of Finance planned to tax dental insurance plans. A lobby was immediately organized against this proposal and CDA was successful in convincing the

Minister to withdraw this tax which would have seriously affected private practice in Canada.

2. Who can help us fill the openings in our appointment books?

Recent surveys have determined that approximately 40 per cent of the population do not visit a dentist on a regular basis. Starting in 1983 CDA will be working to reduce that figure. The Association will be developing a major national communications plan to inform and educate the public about the necessity to seek and obtain greater dental care.

3. What are the advantages of being part of a national insurance program?

Premiums would be significantly higher if you were not

part of a national program sponsored by CDA and your provincial association. Membership is mandatory in order for you to maintain your eligibility for insurance.

4. How effective is CDA in its dealings with federal government departments such as Finance and Revenue Canada?

Very effective. Deductions of continuing education expenses, reduction of tariffs on dental materials, investigation of audits in dental practices by the federal government and a new project of trying to improve RRSP contributions by dentists are examples.

5. Why should I join the CDA?

Answers to questions number 1 and 2 alone are worth your membership dollars in 1983.

The Canadian Dental Association must represent a commitment by the entire profession in order to continue to be successful.

We need your help . . . you need a strong national organization.



Amazing swing to white wines

We're fortunate in Canada to have such a wide range of wines from many different countries available in our liquor commissions.

I hope in this column to write about wines and winemakers; suggest ideas for special wine buys; comment on tastings of different wines and report on news from the world of wine. If you'd like to write and let me know your ideas on what sort of subjects should be included in the column, it would be of great help. Incidentally, if you have any particular questions on a specific wine or related subject, drop me a note c/o 'The CDA Journal', and I'll do my best to answer your questions.

I feel extremely privileged to have been invited to write this column and hope that I'll be able to pass on some of my enormous love and enthusiasm for wine to you, the reader. I've been very fortunate in having had the opportunity of visiting vineyards and wineries in many different countries and consequently I've met and become friends with many people closely involved in the world of wine.

When I write about individual wines I'll do my best to choose ones that are available in most areas in Canada. I'll use the new CSPC number code for the wines, as this system is now standard practice in nearly all of our liquor commissions. As to the cost of the wines I'll give an average price. It may be slightly higher in some provinces and perhaps lower in other areas.

Now let's get down to the subject of wine. The last few years have seen an amazing swing in drinking habits towards white wines. Gone are the days of the 'three Martini lunch' and similarly, sales of aperitifs and liqueurs have dropped in favor of a glass or two of white wine.

Consequently, it would seem ap-

propriate in this first column to write about some white wines and equally so to choose some from Bordeaux, the most famous of all French wine regions (unless you happen to be a Burgundian.)

The Bordeaux region is in southwestern France, close to the Atlantic, and includes such well-known white wine areas as Graves, Entre-Deux-Mers, Sauternes and Barsac.

Simplistically, you can divide the wines into two basic categories. First, there are the famous 'Chateau wines' where the grapes come entirely from the vineyard of a particular Chateau. Many of these wines are world famous and they're costly, both because of limited production and high world demand.

In the second category are wines blended by a 'negociant' or merchant-shipper who may purchase supplies of wines from a specific region such as Entre-Deux-Mers or from a number of different areas across Bordeaux. In this case the skill of the blender is extremely important if the wine is to remain consistent in both quality and taste from one year to the next.

These blended wines can be very pleasant and their price is more affordable than Chateau wines. The better blends have an 'appellation' otherwise called an A.O.C. which stands for 'Appellation d'Origine Contrôlée'.

At one end of the appellation scale are wines that have been blended from grapes originating from a number of different areas of Bordeaux and in these cases you'll find the phrase 'Appellation Bordeaux Contrôlée' on the wine bottle label.

If the blend of wine comes from a more specific area its price will probably be slightly higher and the label

1980
GRAND VIN



BEAU-RIVAGE

WINE

BORDEAUX

VIN

APPELLATION BORDEAUX CONTRÔLÉE

11,5 % alc./vol.



Sélection et mise en bouteille par

Borie Manoux

+ 040329

750 ml

BORDEAUX - FRANCE

PRODUIT DE FRANCE - PRODUIT DE FRANCE

will carry a phrase such as 'Appellation Entre-Deux-Mers Contrôlée'.

The A.O.C. assures you that the wine has been produced in the specified region or area and that the producer has complied with very strict controls governing the type of grape used, the maximum yield per acre, alcoholic strength and method of cultivation. In other words it's an excellent 'stamp of approval' for the wine you're purchasing.

An example of a wine in this category is **Beau Rivage** CSPC #40329 which sells for around \$5.75. It's produced by the House of Borie-Manoux in Bordeaux who have been in business for more than a hundred years. They own a number of Chateaux including such famous ones as Ch. Trotte-Vielle and Ch. Batailley and they are also well respected as blenders of Bordeaux wines. Last time I visited their premises in Bordeaux, Philippe Casteja who is Manager of the Company, showed me some 10,000 barrels plus over a million bottles of wine under storage.

Beau Rivage is an 'Appellation Bordeaux' and it's a blend of Sauvignon and Semillon grapes. The color of the wine is golden amber and the bouquet is crisp and aromatic. In the mouth the wine is dry, fresh and there's a good fruity taste that leads nicely into the after-taste.

Another example of an 'Appellation Bordeaux' is **St.-Jovian Blanc de Blancs** #26708 costing about \$5.25. It

comes from the House of Yvon Mau & Fils who specialize in blending white wines. 'Blanc de Blancs' simply means that the wine comes from white grapes and again the blend is Sauvignon and Semillon. The wine is pale gold in color with an appetizing bouquet from the Sauvignon grape. This time the wine has a touch of sweetness in its taste, which is soft, well-balanced and very easy to quaff.

Finally, I'll suggest an 'Appellation Entre-Deux-Mers'. That's the area that lies between the Garonne and Dordogne rivers. Some of the local winemakers like to use the slogan 'Entre-Deux-Huitres' for their wines go well with oysters. A good example is *Entre-Deux-Mers* #46318 which sells for about \$6.00 and comes from the House of Dumons. The color is a clean, pale straw and the wine has an appetizing bouquet. It's dry to the taste, well-balanced and nicely vinous. It's just right for oysters and other sea-foods. Good Tasting!

CELLAR NOTES from recent tastings:

- *Chateau Kirwan '79*. #87114. \$20.00. This is one of the famous Grand Crus from Margaux. It has a deep ruby color with a touch of

purple in the robe. It's full, warm, round and fruity with plenty of tannin from its youth, plus a hint of oak. It's a good wine for aging and it seems to be standing up better than the '76 and '78 vintages.

- *Chardonnay Latour* #55533. \$10.00. The House of Latour is highly respected in Burgundy and this wine comes from 100% Chardonnay grapes. It's pale straw-gold in color with an excellent fruity and varietal nose. In the mouth it's dry, fruity and nutty. It's beautifully balanced, rich and elegant, both in taste and after-taste. A very nice white Burgundy at a reasonable price.
- *Chateau Timberlay '79* #30072. \$6.50. This 'Appellation Bordeaux' comes from the House of Giraud. The Chateau is located about 20 kms to the north of Bordeaux. The blend of this red wine is mainly Cabernet Sauvignon plus a little Merlot. It has a good, clear, ruby-claret color and a pleasantly fruity nose. It's medium-bodied in the mouth, fruity with some tannin. The Merlot shows through nicely in the after-taste. A couple of years on the shelf should round off the corners and pay good dividends.

FROM THE GRAPEVINE.

The wine: *Villa Antinori Chianti Classico Riserva*.

Comments: This is the Marchese Antinori's finest Chianti from his Santa Cristina Estate in Tuscany. 'Classico' means that the wine comes from the Classico zone which is the best Chianti area. 'Riserva' means that the wine has been aged in oak barrels for at least three years. The color of the wine is rich ruby red. The bouquet is full, flowery and has a hint of violets. The wine is mellow, round and fruity with great depth of character. It will age well for another five years at least. A very fine Chianti.



Details: #53876. Cost about \$6.75.

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Adults—1 or 2 tablets one to three times daily; Children's dosage, when recommended by a physician: 10 to 14 years, one tablet, one to three times daily; 5 to 10 years, one-half tablet, one to three times daily.

CONTRAINDICATIONS

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WARNINGS

Salicylates increase the effects of anti-coagulants. Caution is necessary when salicylates and anticoagulants are prescribed concurrently. Also, salicylates may depress the concentration of prothrombin in the plasma. Large doses of salicylates may affect insulin requirements of diabetics. Salicylates may potentiate sulfonylurea hypoglycemic agents. Analgesic abuse (excessive and prolonged therapy) has been associated with nephropathy. TO AVOID ACCIDENTAL POISONING ACETYSALICYLIC ACID PREPARATIONS MUST BE KEPT WELL OUT OF REACH OF CHILDREN.

PRECAUTIONS

Give with caution to patients with asthma, other allergic conditions, bleeding tendencies, or hypoprothrombinemia. Salicylates can produce changes in thyroid function tests. Observe care in use of codeine, although tolerance and addiction are rare. Give codeine with caution to patients with severe respiratory depression. Its depressant effect may be enhanced by concurrent administration of sedatives and tranquilizers.

ADVERSE REACTIONS

Acetylsalicylic acid: Gastrointestinal: dyspepsia, heartburn, nausea, vomiting, diarrhea, gastrointestinal ulceration and bleeding. Ear reactions: tinnitus, hearing loss. Hematologic: anemia, leukopenia, thrombocytopenia, purpura. Dermatologic and Hypersensitivity: urticaria, angioedema, pruritus, various skin eruptions, asthma and anaphylaxis. Miscellaneous: mental confusion, drowsiness, sweating and thirst. **Codeine:** Average or large doses may cause various gastrointestinal symptoms such as nausea, vomiting and constipation. **Caffeine:** May cause nausea, nervousness, insomnia, headache, vomiting, palpitation, vertigo, muscle tremor, sensory disturbances, excessive diuresis in sensitive patients. Large doses may cause gastric ulceration.

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HOW SUPPLIED

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General Insurance — Loss Prevention — CDSPI

The year 1982 saw the highest number of claims for water damage, theft, vandalism and general liability ever recorded under the Canadian dentists' Insurance Program. Not only are the number of claims increasing at a tremendous rate, but the average settlement figure for each claim is also increasing rapidly.

Every dentist has a stake in this and can play a role in slowing down the escalation of claims and maybe reverse the trend that has been building up the last few years.

As a dentist interested in maintaining your practice with a minimum of hassles, it means that you don't need the aggravation and problems associated with a general insurance claim. Keep the following "Hints" in mind.

Suggestions that will help you

1. Know your equipment. Be informed about the water connection system to your chair. Insist on proper connections with clamps in order to avoid separation caused by a sudden increase in the water pressure.
2. Don't place a coat rack near an open doorway where it becomes tempting and easy for a thief to remove an expensive leather or fur coat.
3. If your location is in a **High Risk** area, consider the installation of fire and burglar alarm systems.
4. Place your dental equipment on some system of regular maintenance.
5. Don't leave the reception desk unattended unless the cash drawer is locked and valuables placed out of sight.
6. Have a master water shut-off valve installed and make sure it is in the "off" position every evening and on weekends.
7. Don't leave your expensive wrist watch, ring or other jew-

ellery lying about on a desk. These should be stored in a safe, locked drawer or cabinet when not worn.

8. Keep the office orderly and free of boxes, electrical cords or other obstacles in the patient traffic areas.
9. Don't underinsure yourself. Your Contents Insurance should be for an amount required to cover the replacement cost of equipment, fur-

nishing and leasehold improvements at **today's** cost.

10. Don't treat security lightly. Have proper locks on all doors and if windows are accessible, have locks and security screens as well.

Problem avoidance should be standard procedure in every dental office. A very significant number of general insurance claims would not occur if simple precautions were taken.

Obituaries/ Nécrologies

CHALMERS, Paul Anthony: November 24, 1982. Dr. Chalmers, of Edmonton, Alberta, was born in Manitoba in 1936. He graduated in dentistry from the University of Alberta in 1966 and practised in Fort Saskatchewan, Smoky Lake and Edmonton, Alberta. He was Regional Dental Officer, Medical Services, for Health & Welfare Canada from 1978-79.

CLEALL, Frank: A Life Member of the CDA, Dr. Cleall graduated from the University of Alberta in 1942. He was born in 1919.

CRABBE, James O: November 4, 1982. Of Ottawa, Ontario, Dr. Crabbe was born in 1908 and graduated from the University of Toronto in 1930. He was a life member of the CDA.

DAGG, Richard Earl: Dr. Dagg graduated from McGill University in 1927. He was born in 1897.

EBY, J.E.: A graduate of the University of Alberta in 1950, Dr. Eby was born in 1911. He was a Life Member of the CDA.

FONGER, I.E.: A Life Member of the CDA, Dr. Fonger was born in 1895.

HIGH, Edward Alan: A graduate of Dalhousie University in 1959, Dr. High was a member of the Canadian Dental Association. He was born in 1931 in Durham, England.

LAROSE, L: Gradué de l'Université de Laval, 1980. Née en 1956.

NETHERTON, William John: Dr. Netherton graduated in 1922 from the University of Toronto. He was born in 1896.

PAGEAU, Ovide: Dr. Pageau graduated in 1929 from the University of Montréal. He was a member of the Canadian Dental Association.

TAYLOR, Gene R.: Dr. Taylor was born in 1918, and graduated in 1953 from Ohio State University.

WILSON, J.A.: Dr. Wilson was a graduate of the University of Toronto, graduating in 1943.



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Briefly —

Alberta's provincial government has "opened up" all acts governing professionals and the Alberta Dental Association has accepted the opportunity to redraft the Dental Act.

While the ADA had no particular quarrel with the existing Dental Act, some items were a bit cumbersome," according to Dr. R. D. Kinniburgh, President of the Alberta Dental Association.

There is a good possibility there will also be a new act for dental auxiliaries in Alberta, called the Dental Occupations Act. This, Dr. Kinniburgh said, would be similar to that province's Health Occupations Act.

Previously, "there was no legislation whatsoever for hygienists" in Alberta, he said.

The ADA committee has progressed to about the eighth draft of the regulations and by-laws of the proposed new Dental Act, and Dr. Kinniburgh suspects the final draft will be introduced in the next session of the Alberta Legislature.

♦♦♦♦♦♦♦♦

Dr. Daniel J. Sullivan, a recent graduate of the University of Manitoba orthodontic class, will receive the Award of Special Merit from the American Association of Orthodontists for his research, entitled: "*An Investigation into the Three-Dimensional Force and Moment Characteristics of Selected Low-Modulus Initial Alignment Archwires.*"

This work was recently completed in partial fulfilment of Dr. Sullivan's M.Sc. degree at the University of Manitoba, in conjunction with his graduate orthodontic program. He will be presenting his research and receiving his award at the next AAO Annual meeting in Boston, Massachusetts, in May.

His award marks the third consec-

utive year in which a member of the University of Manitoba's graduating orthodontic class has received this international award. Previous recipients were Dr. Elli G. Roehm (1981) for her work on tongue volume, using computer-assisted tomography, and Dr. Martin Lack (1980) who had developed technology to determine resultant orthodontic forces and moments in three dimensions, simultaneously.

♦♦♦♦♦♦♦♦

The first two "Call the President Days" have been termed "successful" by CDA President, Dr. William R. Thompson.

A third one is scheduled for Tuesday, April 19.

On this occasion CDA members are encouraged to take advantage of the opportunity to discuss matters of concern and express opinions.

CDA members may call collect, to (613) 523-1770, between the hours of 8.30 a.m., and 4.30 p.m. (Eastern Standard Time).

The first two events were constructive and fulfilled their purpose, Dr. Thompson reported.

The fourth and final "Call the President Day" is scheduled for Tuesday, June 7.

♦♦♦♦♦♦♦♦



Colonel George R. Covey

Colonel (Retired) George Ross Covey, MBE, CD, of Ottawa, Ont., has been appointed colonel commandant of the Canadian Forces Dental Services.

The position is an honorary appointment granted to a retired senior officer of that branch. As colonel commandant, Colonel Covey's duties include fostering an esprit de corps throughout the Dental Branch and advising the Chief of the Defence Staff on matters of significance to that Branch.

Colonel Covey began his military career in 1941 and he saw service with the Canadian Army during the Second World War. Following the war, he transferred to the Regular Force and served until his retirement in 1973.

His senior appointments included command of 25 Canadian Field Dental Unit in Korea, commanding officer 35 Field Dental Unit, Metz, France, commandant of the Royal Canadian Dental Corps School at Camp Borden, Ont., and deputy director general of Dental Services at National Defence Headquarters.

In September, 1973, he became director of the Dental Health Science Program at Algonquin Community College in Ottawa.

In 1974, Colonel Covey entered a private dental practice in Ottawa and retired from that practice in 1979.

♦♦♦♦♦♦♦♦

A woman in St-Jean, Québec has come up with a novel Hallowe'en idea. She has been giving toothbrushes to the young trick-or-treaters, instead of the usual candies. She has given out six dozen of them in each of the past two years.

The children were quite happy to get the toothbrushes, Mme Denise Gadbois is reported to have told the St-Jean newspaper *Canada français* (and quoted in *dent pour dent* Vol 8, Number 1).

The parents were warm in their commendation of the idea.

Mme Gadbois believed the idea was constructive when she asked the children if they had a toothbrush at home. Forty to 45 per cent of them didn't have one, she discovered. And

they promised her they would use their new toothbrush that night.

Mme Gadbois said that through the cooperation of a dentist, Dr. Gilbert Chaume, she is able to get the toothbrushes at wholesale cost.

Next Hallowe'en, she is considering giving out dental floss if it isn't too expensive. If it is, she'll return to toothbrushes. After all, she said, the price of a toothbrush is very little more than that of a chocolate bar.

The Canadian Standards Association reports that new standards for tracheal tube connectors and anaesthetic gas scavenging systems are now available.

Standard Z168.2 sets requirements for tracheal tube connectors with the object of ensuring that products of different manufacturers are interchangeable and will function effectively with tracheal tubes and other breathing system components.

Standard Z168.8 specifies construction and performance requirements for systems that collect and remove waste anaesthetic gases and vapors. It includes criteria for the selection of effective and safe scavenging systems.

Medical Devices Alert No. 46 from Health and Welfare Canada recommends the installation of anaesthetic gas scavenging systems in dental operating areas.

Both of these standards include test procedures, and Z168.2 is reinforced by a CSA equipment certification program.

These two standards may be purchased at CSA cash and carry sales centres in Toronto, Vancouver, Edmonton, Winnipeg and Montréal. Mail orders should be sent to: Sales Group, Canadian Standards Association, 178 Rexdale Blvd, Rexdale (Toronto) Ontario. M9R 1R3.

The prices of these standards are as follows: Standard Z168.2 Tracheal Tube Connectors \$15; Standard Z168.8 Anaesthetic Gas Scavenging Systems \$20. Postage and handling charges per order are \$1.00 in Canada, \$2.50 to the U.S. and foreign

points. A cheque is requested for all orders under \$75. VISA or MASTERCARD orders will be accepted by telephone by calling (416) 744-4044.

Dr. Pierre Desautels, professor of dental materials at the Université de Montréal, Faculté de médecine dentaire, has just published a textbook on his specialty.

"Les matériaux dentaires précis et guide de choix" is a translation and adaptation of an American textbook, Dr. Desautels said.

The work was done at the request of the Québec ministry of education, because there is a shortage of dental textbooks in the French language. Dr. Desautels was requested by his editor to undertake the task.

There was only one other textbook on dental materials in French, he said, and it was published about 10 years ago. The new volume is more up-to-date, "a good text, which can be used by practitioners, hygienists and students."

(Dr. Desautels is the Scientific Editor (French) of this Journal).



Dr. Bernard E. White

In addition to the election of its new President, Dr. Bernard E. White, and Vice-President, Dr. W. P. Reed, reported earlier in this column, the College of Dental Surgeons of Saskatchewan recently elected Drs. W. M.

McKechnie of Swift Current, G. A. Riekman, J. K. Sutherland and E. W. Zak, all of Saskatoon, and G. B. White of Regina, to serve on the Council.

Appointed to the Council under the provision of the Dental Profession Act, were: Mrs. C. Fisher, Regina, Consumer Representative; Mrs. S. G. Anholt, Kenaston, representing the Saskatchewan Dental Assistants Association; Miss N. A. Bateson, Regina, representing the Saskatchewan Dental Hygienists' Association; Dr. E. R. Ambrose, Dean of the College of Dentistry, and Dr. J. W. Niedermayer, Regina, the representative of the College to the Board of Governors of the Canadian Dental Association.

Reinstating the British Columbia dental care plan will get highest priority when the economy justifies it, according to a recent letter from B.C. Health Minister James Neilson, sent to a B.C. municipal council.

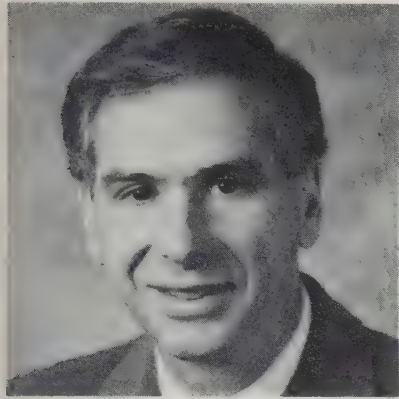
The letter said, in part:

"It has become clear the province cannot continue to fund the Dental Care Plan, begun in more prosperous times, in the present economic climate. Therefore, I was forced reluctantly to suspend this Plan for the period of provincial fiscal restraint. Clients of the Ministry of Human Resources will continue to be covered for necessary dental care through that Ministry.

"Dental care is an important aspect of our health care system and it was with regret that I made this move. I assure you the government will give re-implementation of the Plan the highest priority when the economy recovers. It is my intention to carry out an in-depth review of our experience in Denticare and to suggest improvements and modifications. This review will be carried out by a committee of professionals, consumers and government."

The municipal council of Fernie, B.C., has asked the government that consideration be given to group plans for senior citizens.

The undergraduate elective in Hospital Dentistry — an innovative educational experience



Mervyn Gornitsky DDS, FRCD (C)

Hospital Dentistry is one of the fastest growing health services available to the population. The security of the hospital environment is essential for the treatment of many medically, physically and mentally handicapped patients. The need for special facilities to allow wheel-chair confined patients access to dental treatment, plus the advantages of the operating theatre for general dentistry to the severely handicapped, has elevated the hospital to a primary treatment module. The hospitalized chronic and acute care patients requiring dental treatment must, of necessity, be treated within the institution.

Thus the importance of hospital dental services is directly proportional to the progress being made in medicine. The hospital dentist will be in the forefront of dealing with the medically compromised, handicapped and geriatric patient.

Recently the W. Kellogg Foundation, along with the American Association of Dental Schools, published a book on *Advanced Dental Education Recommendations for the 80's*. Among the salient features was a recommendation that the number of positions in General Practice Residencies and other advanced dental programs designed to better prepare the students for general practice, be increased to accommodate approximately one-half of the dental school graduates by the mid-1980's. There

Summary

An innovative undergraduate program in hospital dentistry has been initiated between McGill and Ohio State Universities using the Sir Mortimer B. Davis Jewish General Hospital Dental Department, Montréal, Qué., as the locum.

This program allows a Fourth year dental student from Ohio State to practice dentistry under supervised conditions in a structured program with an emphasis on dealing with handicapped patients. The students resides in the hospital during his/her three-week elective.

The practice of dentistry is accomplished in an operatory with a dental assistant, using four-handed techniques.

Disciplines of dentistry involved are: Operative, Periodontia, Oral Surgery and Oral Diagnosis. Attendance in the operating room assisting oral surgeons and general practitioners, as well as lectures and seminars, is compulsory.

The response of the students in this program to date, has been excellent.

was a recognition that an increased number of dental graduates are now seeking a post-doctoral experience in general practice.

These programs give a graduate a chance to integrate knowledge and skills learned at dental school, gaining additional proficiency and confidence in providing a wider range of comprehensive dental services.

The rising enrollment in General Practice Residency Programs, as well as the increase in funded hospital dental services, has been cited as an indication that more education is necessary to prepare students to enter the general practice of dentistry. Although the curriculum for the undergraduate dental student has increased during the past decade by expanding the daily course load and by extending the program into what were previously summer vacation periods, there are still deficiencies. Graduates are inadequately prepared to deal with that group of patients that is disproportionately increasing within the general population.

Dental schools do not have the facilities to deal with the medical emergency and often are not equipped to handle the physical or mentally handicapped patient that is confined to a wheel-chair. The time allotted for

a broad exposure to basic clinical and behavioural sciences fills up almost all of the time within the undergraduate program.

This additional hospital based experience could be attained in an elective period as part of the undergraduate pre-doctoral education. The student is involved in treating non-preselected patients and has contact with the handicapped in an educational setting.

Such an elective is now in progress between Ohio State and McGill University Faculties of Dentistry, using Sir Mortimer B. Davis-Jewish General Hospital Dental Department as a locum. The program was initiated July 1st, 1982, and consists of a senior student spending three weeks in the Dental Department while residing in the hospital. The student is on call every second night and every second weekend, with our general practice resident. An operatory equipped for four-handed dentistry, along with the attendance of a dental assistant, is made available to him/her and a special program of instruction has been arranged. Patient appointments are established in advance and the program is structured so that the student can complete whatever procedures he starts within the three-week period.

Continued on next page

The disciplines involved are: — Operative Dentistry, Oral Diagnosis, Oral Surgery and Periodontia. Attendance in the operating room as a second assistant to the Oral Surgeons and the General Practitioners involved in our handicapped program is compulsory. Dental emergencies are treated as part of daily routine.

Students also take part in the didactic program which consists of lectures and seminars given by the attending staff, mainly in the evenings. This presents the students with a complete and varied program, allowing them to become familiar with hospital routine. Supervision is continuous as there are geographic full-time dentists available as well as part-time teaching staff involving all disciplines of dentistry.

The oral surgical in-patient service is rather an active one with over 200 major oral and maxillofacial cases performed each year. The student follows the resident on rounds and is

responsible with the resident for overseeing the post-operative patient. The interaction of the student with the resident gives them first hand experiences within a General Practice Residency Program, which allows them to evaluate their own future and consider the various options on graduation.

In conclusion, the advantages of an elective period undertaken by the undergraduates in a well-structured General Practice Residency Program, permits the students to treat unselected patients (many with medical handicaps), allows them to function as in private practice, with dental assistants using four-handed dentistry, gives them operating room experience and permits them to inter-relate with residents in a hospital milieu.

The three-week period is optimum for the student to become well acquainted with the hospital facilities and sufficient time is allotted to treat patients adequately for various prob-

lems. The continuity of patient care is important for patient well-being and rapport. It is essential that the dental student be of sufficient maturity with intellectual and clinical ability, that he/she is able to spend three weeks away from the faculty without it being detrimental to his/ her undergraduate education. It is also important on the part of the hospital dental staff not to present techniques and theories that might confuse the student. Thus a harmonious blending is achieved of clinical patient care with selected compatible educational programs.

Dr. Mervyn Gornitsky is
Chief, Department of Dentistry,
Sir Mortimer B. Davis—
Jewish General Hospital, Montreal, Que.

Chairman, Council on Hospital Services
Canadian Dental Association

Adjunct Professor
Ohio State University
Faculty of Dentistry
Assistant Professor
McGill University
Faculty of Dentistry

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Credit cards acceptable in nine of Canada's provinces

"Will that be cash or credit card?" is a phrase that may soon be heard in dental offices right across Canada.

Credit cards as a method of payment of patients' accounts have been used in nine of the 10 provinces since "plastic money" became popular.

The only remaining provincial dental body still doing some government lobbying to gain approval for the use of credit cards for dentists is Ontario's.

Dr. Ken Pownall, Registrar of the Royal College of Dental Surgeons of Ontario said that under provisions in the Health Disciplines Act, dentists are prohibited from accepting credit cards in Ontario.

Late last year, the College went to the Ontario government to change that regulation, but Dr. Pownall said the College "doesn't expect a quick answer because the government is taking a good look at the whole credit card system."

Only credit cards approved by the College would be used for paying dental bills.

"A patient would not, for instance, be allowed to pay for treatment on his gas station credit card," said Dr. Pownall.

Cards the College would consider acceptable are Visa and Master Card.

Approval in Quebec

In Québec, members of the QDSA were recently given an official blessing for the use of credit cards.

Dr. Claude Chicoine, President and Registrar of the QDSA said that the Association recently paid \$25 to the Canadian Imperial Bank of Commerce on behalf of all their members who wish to accept Visa as a method of payment.

In return, members of the QDSA will only have to pay for the rental of the credit card machine and the Bank of Commerce will charge members only 2 per cent of their annual volume of business through Visa.

Dr. Chicoine stressed that only QDSA members may take advantage of this and only a one-time fee of \$25 was paid on behalf of all members.

The use of credit cards has always been considered ethical in Québec and has been in use for some years by many dentists.

The same is true of the other eight provinces.

Patients in British Columbia, Alberta, Saskatchewan and Manitoba have all been able to pay their dental bills by credit card for several years. Ross McIntyre, Secretary-Treasurer of the Manitoba Dental Association said that Manitoba dentists have been

allowing patients to use credit cards since 1969.

No problems in West

The other three western registrars reported that no problems have been encountered either by the dentists or the patients using this method of payment. The practice is not considered an issue in the West.

The Atlantic provinces — Prince Edward Island, Nova Scotia, New Brunswick and Newfoundland — have also considered the use of credit cards both legal and ethical for several years. All of the Eastern provincial registrars reported, however, that payment by credit card is not a common practice.

Dr. B. L. Bowden, Registrar of the Newfoundland Dental Association said that "only three or four dentists in Newfoundland allow patients to pay by credit card, but the practice has been used in the province since such cards began."

Twelve qualify for RCDC Fellowships

Twelve dentists were successful in The Royal College of Dentists of Canada Fellowship Examinations in December.

The actual Fellowships will be awarded at the Convocation which will be held in Vancouver on September 24.

Successful candidates in the specialty of Endodontics were Dr. Richard F. Hunter of Toronto, Ont. and Dr. James E. McCormick of Palos Heights, Illinois.

Seven candidates in the field of Oral and Maxillofacial Surgery, were successful. They are: Dr. Charles L.

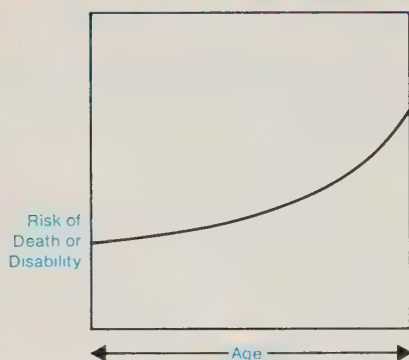
Consky, Windsor, Ont.; Dr. Walter Dobrovolsky, Toronto, Ont.; Dr. Brian W. Draper, Nanaimo, British Columbia; Dr. J. Richard Emery, Montréal, Qué.; Dr. Timothy W. Head, Montréal, Qué.; Dr. K. Ford Moore, Richmond Hill, Ont. and Dr. Robert S. Sorochnan, Thornhill, Ont.

In the specialty of Orthodontics, Dr. Hugh W. Lamont of Victoria, B.C., was successful.

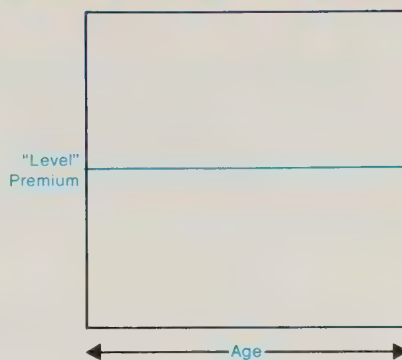
Dr. David S. Richardson of San Antonio, Texas, achieved Fellowship status in the field of Paedodontics.

In the specialty of Periodontics, Dr. Donald G. Tustian of Toronto, was the successful candidate.

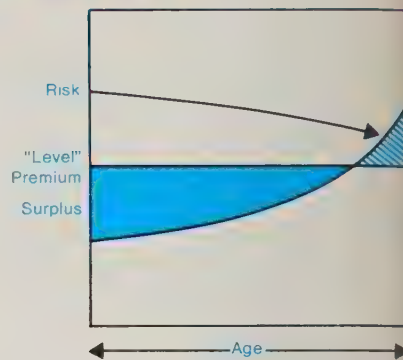
Insurance companies like to sell "LEVEL PREMIUM" Life & Disability policies We don't sell them at all. Here's why:



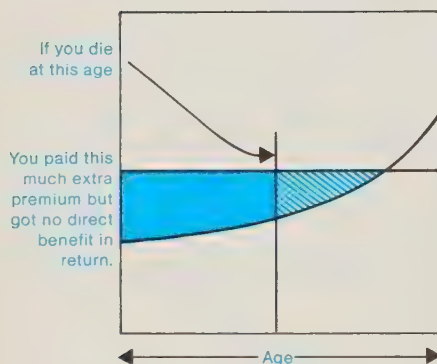
The older you get, the greater the risk of disability or death. Since the insurance company's premium goes up, you'd expect the premium to go up too.



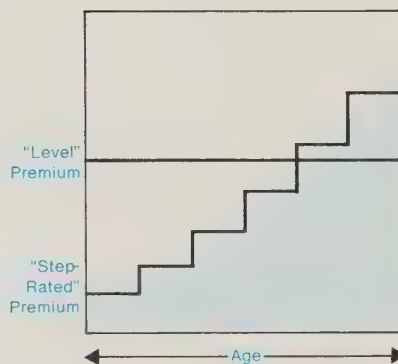
But many insurance companies guarantee you a "level" premium. Once you buy the policy, the premium stays the same as you grow older. Sounds like a good deal, doesn't it?



In fact, the insurance company simply overcharges you in the early years, creating a surplus to meet the higher costs later on. This way, the company has the use of your money, at low cost, for long periods. You could have used the excess premium yourself — to help pay off a mortgage, build your practice, or to invest.



But if you die or become disabled before the surplus is used up, only the contractual amount of the policy is paid. You may never receive any direct benefit from the surplus!



All CDIP life and disability policies are "step-rated": premiums go up at five-year intervals, to match the increased risk. Ninety-nine times out of a hundred, the initial step-rated premium will be lower than a "level" premium for the same amount. You get more coverage for a lower premium in the early years; you keep the use of more of your own money.

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The genesis of a national interview study

W.R. Teteruck BSc, DDS, MSD

IN THE BEGINNING

Over the years much has been written about the development and implementation of structured interviews for both dental and medical use in the admissions process.¹⁻³ Seldom, if ever, does one have an opportunity to find out how a structured interview is developed or how much work and support are actually involved in this endeavour.

I have had the distinct pleasure during the past eight years, to have been involved in this process and would like to share some of my recollections with you. In addition, it will allow me to give credit to those individuals who so freely gave of their expertise, time, and energies in the development of this project.

As so often happens, good ideas are not always born in the laboratory but emerge during casual conversation at the most unlikely time or place. This story has its genesis in the summer of 1974.

The Admissions Committee of the Faculty of Dentistry at the University of Western Ontario had just concluded its annual rites of selecting its incoming class and some of the members of that committee were finishing their cup of coffee and commiserating on the difficulties of the task. Someone said, "You know, there's got to be a better way of being able to select dental students than just on the basis of grades and manual dexterity — like possibly using interviews". We all nodded our heads in agreement, and the issue appeared to die.

At a post mortem meeting of the Admissions Com-

mittee, the issue was raised again and an ad hoc committee was struck to look into the desirability and feasibility of an interview system. The members of the group were Dean Wesley J. Dunn as Chairman, Dr. Stan L. Kogon, the Chairman of the Admissions Committee, Dr. Leonard Johnson, a past chairman, and myself.

The next few months were spent gathering information from as many institutions as we surmised or knew were using interviews in their selection process. The samples included dental and medical schools in Canada and the United States. The replies were interesting but discouraging. Some had employed an interview system but finally had discontinued it. Others employed a semi-structured interview and depended heavily on it in selecting those students possessing personal qualities deemed to be desirable to the practice of..... Some schools felt, "Interviews provide the penultimate reduction in the applicant pool". Others who had never employed the interview in a systematic way as a screening tool, nevertheless expressed the view that "some form of interviewing technique would be highly desirable . . . the current method of using grades and aptitude test, as the sole basis for acceptance into professional schools, represents a relinquishing of responsibility".

Finally, one Faculty indicated it had experimented with interviews for a number of years, using several techniques, but felt that not much had been gained from such interviews, other than a public relations benefit to the institution. Consequently, interviews were discontinued because the data showed that "results of interviews were irreproducible". This left our group in a quandry, and it

was decided it was not feasible to initiate an interview system. For one thing, we did not have the expertise on the subject. And, whose opinion was one to believe? It appeared once again, the issue had died.

PLANNING

Some four years later, Dr. Stan Kogon was asked to serve on an ad hoc committee of The Ontario Dental Association, (ODA), studying admissions from the profession's point of view and the issue surfaced once again. He indicated to the committee that we (at Western) had contemplated initiating an interview system validation study but had been unsuccessful. In January of 1979, I was asked to speak to the ODA ad hoc committee to summarize our findings. At that time, I was also chairman of the Canadian Dental Association's Dental Admissions Test (DAT) Committee which had expressed some interest in this subject.

The ad hoc committee discussed at length the idea of an interview validation study and agreed it would be a most worthwhile project in which to become involved. More detailed information was then requested by Dr. Bradley Holmes, the chairman of the committee, including names of consultants who would have the expertise to discuss the implementation of such a study and offer counsel on an appropriate time-span and costing.

In my reply to Dr. Holmes, I listed the names of those persons I felt could contribute most knowledgeably on the subject. It became quite apparent at this time that expertise in the area was very scarce and that a good number of those considered were already a part of the Canadian Dental Association's Dental Admissions Test Committee. As a result, I asked for additional time to discuss the matter with the CDA's DAT Committee, to make certain we had not missed anyone in our search.

Finally, in September of 1979, a proposal for a two-day Workshop on Interviewing was sent to Mr. John Gillies, the Executive Director of the ODA. Its main aim was to develop a research instrument suitable for a long term study on Interview Validation. Those suggested included:

- Dr. Gordon Thompson
Dean, Faculty of Dentistry
University of Alberta

who has a Ph.D. in Epidemiology & Biostatistics and has been conducting validation studies regarding aptitude testing for the past 10 years.

- Dr. Marcia Boyd
Associate Professor
Faculty of Dentistry,
University of British Columbia

who has a Masters Degree in Education and was collecting data on personality factors related to dentistry

- Dr. James Graham
Assistant Secretary
Council on Dental Education
American Dental Association

who is a psychologist, and has a Ph.D. degree in the field of measurement and evaluation and has been director of this Council's educational research and testing program activities.

- Dr. Judith Krupka,
Associate Professor, College of Natural Science,
Michigan State University

a respected author has a Ph.D. in College Counselling and is an expert in psychometrics. Dr. Krupka helped establish the interview system at the College of Medicine, Michigan State University.

- Dr. Frank Popovich,
Faculty of Dentistry,
University of Toronto

who was highly knowledgeable of the literature on interviewing and had worked in establishing the current system at the University of Toronto.

Shortly thereafter, funding was approved and an Interview Validation Study Workshop was called for November 1979 in Toronto at the ODA. I was asked to chair the session with additional participation from Dr. Bradley Holmes and Ms Linda Teteruck of the CDA.

The group addressed themselves to the following questions:

- Do our dental graduates, who have the necessary academic and psychomotor skills, lack interpersonal abilities to deal with their patients properly?
- Is our current method of selecting dental students addressing this question?

There was general agreement that our present day graduates had the necessary academic and clinical skills but appeared to interact poorly with their patients and fellow professionals, while others failed to demonstrate adequate social consciousness.

Two broad solutions to the problem were considered. Should or can dental institutions be training students in these necessary characteristics? Should the dental faculties be attempting to select eligible individuals who already possess them?

It was agreed it would be almost impossible to do the former. So we set about to find out how most effectively to do the latter. Once we concluded that our current method of selecting dental students did not address the total problem, the following questions were raised:

- (1) What characteristics or traits are desirable?
- (2) What mechanism should one use?
- (3) How can one demonstrate reliability and validity

There was little difficulty in defining those traits which were desirable for our profession and the interview, although fraught with many problems, appeared to be the most likely mechanism through which to expand the selection criteria.

At that time, one dental school in Canada was using an interview system, another was initiating the use of interviews, and four of the remaining eight schools had formally expressed an interest in the exploration of this approach.

Quickly, our goals were becoming defined:

- (1) to design an interview system
- (2) to implement the system in as many schools as possible, and
- (3) to study the effectiveness of the system.

It became quite apparent that a team would be needed to initiate and carry through these objectives. Since most of those at this first meeting were already involved in Dental Admissions with the CDA, an Interview Study group was formed as a sub-committee of the CDA-DAT committee. Dr. Ian Bennett, Dean of the Faculty of Dentistry, Dalhousie University was added to the group. Following that first two-day meeting, enthusiasm was high and the idea of breaking new ground in testing the effectiveness of adding non-cognitive criteria to the selection process was exciting.

PHASE I

Phase I involved the initial development of the interview instrument.

In January of 1980, the small study group met for two days in Toronto and virtually constructed two parallel batteries of questions to be used in the interview. This may not sound overly difficult, but when one stops to think about all seven desirable traits or characteristics had to first be defined and then multiple questions constructed for two separate sets of forms, the permutations become overwhelming.

Our timing was crucial because we knew that The University of British Columbia (UBC), Faculty of Dentistry, was planning on initiating interviews in early 1980 and we hoped to have our instrument employed in that pilot venture. This introduced yet another problem. Who or how was one going to train people on the use of the mechanism we had created?

In our midst, we were fortunate enough to have someone who had previously trained interviewers and she very graciously consented to do the same for our study. Little did Dr. Judith Krupka realize that it would eventually snowball to involve almost all dental schools in Canada. So, in February of 1980, the first Interview Training workshop was born at UBC with observers from the University of Alberta. The response was very positive and another one was set up and conducted in March at Edmonton.

We were on our way with two schools in Canada using a selection instrument that had been just a thought, a mere five months earlier.

Well, not quite on our way. There was a problem; money. Up to now, the study group had been meeting in conjunction with CDA-DAT business. Additional funding however, was now needed.

Fortunately, the study group had written previously to the Canadian Fund for Dental Education and had indicated an interest in doing a research project on interviewing. The fund had responded favourably to the idea and now the time was right for the study group to submit a formal proposal with its long range plans and implications. In the end, support came in the form of a grant for 1980, that allowed us to go on with the project.

As a result, the group met again in April for a review of the UBC interview workshop and the whole interview study process.

It was now time to press on with the second stage of our objective.

PHASE II

This part of the study involved interview training workshops at as many interested Canadian dental faculties as possible and included site visits to the following schools:

Dalhousie University	— August 1980
University of Saskatchewan	— March 1981
University of Manitoba	— March 1981
University of Western Ontario	— April 1982
University of Montreal	— October 1982

Following the Halifax training session, a final review was done and the instrument was approved. At this stage, three dental schools were already using our structured interview and the need for additional parallel forms became critical. So, in December 1981, another two-day "think tank" was set up and questions were created along with revisions to the originals.

Our sample size was now increasing. Data collection and interpretation of results were becoming a reality.

THE FUTURE

At this time, remaining interested dental schools will be asked to join the study which is scheduled to extend through to 1990. We now have a reliable interview instrument which will allow longitudinal data collection and analysis to test the predictive validity of interviewing. This is the last of our originally stated objectives.

As a consequence of this research, a very valuable data bank will be established, from which future research activities will be able to commence on vital issues related to our profession. One will be able to look at character traits as they relate to practice patterns, problems, choice of

specialty, career satisfaction, etc., all of which have very obvious applications.

In the article that follows, the details of development and the initial results of this data collection are shared with you.

It is my distinct pleasure to have been a part of this study and to have worked with those who contributed so much of their time and energies to make this project a reality.

We are especially indebted to the Ontario Dental Association, the Canadian Dental Association and the Canadian Fund for Dental Education, for their initial and continuing support of this study.

As dentists, we have every reason to be proud of the work that our provincial and national organizations are doing on our behalf, along with that volunteer group of dedicated professionals that toil behind the scenes.

I am especially proud to have been part of this project and to have the opportunity to share it with you.

ACKNOWLEDGEMENTS

The present members of the Interview Study Group of the Canadian Dental Association are:

Dr. D. Banting, University of Western Ontario
Dr. I.C. Bennett, Dalhousie University

Dr. M.A. Boyd, University of British Columbia
Dr. J.W. Graham, American Dental Association
Mrs. L. Graham, American Dental Association
(Consultant)
Dr. J. Krupka, Michigan State University (Consultant)
Ms L. Teteruck, Canadian Dental Association
Dr. G.W. Thompson, University of Alberta

Dr. Teteruck is the former Chairman and Project Director of the Dental Admissions Test Committee and Interview Study Project.

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9:00 AM - 1st Bi-annual WCDS Shotgun Golf Tournament
12:00 PM - Registration Desk Opens
3:30 PM - Alberta Dental Association Annual Meeting
7:00 PM - "Participation Night"

MONDAY, JUNE 13

AM - Exercise
Breakfast Clinics (eat & learn)
Education - Speaker Donald O. Clifton, Ph.D.,
Selection Research Inc., "Varsity Management"
PM - Exposition
Education continued - Donald O. Clifton, Ph.D..
Evening - Western Roundup - Dinner & Entertainment

TUESDAY, JUNE 14

AM - WCDS Marathon Run (8 km)
WCDS Fun Run (1 km)
Breakfast Clinics (eat & learn)
Education - Speaker Art Burgess, Ph.D.,
University of Alberta, "Physical Fitness - A
Lifetime Investment With a Maximum Return"
PM - Exposition
Sports Events
Evening - High Society (you might meet the "Stars" while
dining and dancing)

WEDNESDAY, JUNE 15

AM - Farewell Brunch - Check-out 12:00 PM

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Development and implementation of a structured interview for dental admissions

Marcia A. Boyd, DDS, MA
Vancouver, B.C.

James W. Graham, PhD,
Chicago, Illinois

Walter R. Teteruck, BSc, DDS, MSD
London, Ont.

Judith Krupka, PhD
East Lansing, Michigan

ABSTRACT

In an attempt to assess some non-cognitive characteristics of dental school applicants, the Dental Admission Test (DAT) Committee of the Canadian Dental Association undertook the development of a structured interview. Through a structured format, standardized information would be sought on eight aspects of personality: motivation, ability to relate, self-appraisal, adaptability, maturity, principles (ethics), responsibility, and overall assessment. To date, six faculties have participated in interview training workshops and have incorporated the interview results into their admissions procedure. Reliability was established in a pilot study and verified with two-year results at the Universities of Alberta and British Columbia. Factor analysis indicates that the composite score of all characteristics provides the best assessment of the candidate. Validation studies will follow when those applicants who were accepted have progressed through the undergraduate curriculum.

SOMMAIRE

Dans un effort pour évaluer certaines facultés non cognitives des élèves qui désirent être admis aux études dentaires, le Comité du TAED (Test d'aptitudes aux études dentaires) de l'Association dentaire canadienne a entrepris d'élaborer une interview normalisée. Se

servant d'un plan précis, on cherchera à obtenir des renseignements de caractère ordinaire touchant huit points de la personnalité des élèves, soit la motivation, l'aptitude à communiquer avec autrui, l'appréciation de soi, la faculté d'adaptation, le degré de maturité, les principes éthiques, l'esprit de responsabilité et l'appréciation générale. Jusqu'à présent, six facultés dentaires ont participé aux ateliers portant sur les méthodes d'interview et ont modifié leurs procédures d'admission en conséquence. Le bien-fondé de la méthode adoptée a été établi par une étude-pilote et confirmé par deux années d'essai dans les universités de l'Alberta et de la Colombie-Britannique. D'après l'analyse des facteurs, le résultat global de tous les points de la personnalité d'un candidat constitue la meilleure façon de l'évaluer. De plus, pour s'assurer que l'interview est vraiment valable, on fera d'autres études quand les candidats admis auront entrepris leurs études universitaires.

Bases of acceptance

The acceptance of applicants to dental school is based primarily on traditional measures of academic achievement, with consideration given to the Dental Admission Test (DAT), letters of reference and personal statements.^{1,2} Interest in expanding the scope of admission procedures through the development of methods to include non-cognitive measures has increased as concern

about current graduates from professional schools has escalated.³⁻⁵ Given the generally high academic qualifications of the pool of applicants, the factors which will determine the ultimate success or lack of success will probably not be predicted upon intellectual ability but rather on the non-cognitive, non-achievement components of clinical practice.⁶ Validation studies of the academic grade point average and DAT in both the United States and Canada have shown positive acceptable level correlations with preclinical and general overall success in dental school, but a good predictor of performance in the clinical years has yet to be identified.^{2,7-15}

Some standard measures of personality, such as the Edwards Personality Preference Schedule and the California Psychological Inventory, have been used but with varied and disappointing results.^{10,16,17} More recently, the Canadian Dental Association introduced the 16 Personality Factor Questionnaire (16 PF) into its national testing program.¹⁸ However, with respect to long-term projections of success, measures have not been developed to assess choice of practice type or mode, ability to interact sensitively and appropriately with other professionals, or decision to leave the profession. It might be concluded therefore, that given the problems and lack of success thus far in assessing non-cognitive criteria, it would be best to completely ignore them when selecting dental school applicants — an argument that has its share of proponents. Advocates of this policy should be aware, however, that there exists in the literature evidence that traditional measures have low or even negative correlations with such factors as clinical performance, interpersonal skills and choice of primary care specialties.¹⁹⁻²² If professional schools are to succeed in their desire to increase heterogeneity of classes, eliminate the practitioners with poor interpersonal skills or those who will eventually abandon the profession, the solution will not be found in the continued use of traditional measures as the only determinants in the selection of potentially successful dentists.

Despite skepticism as to its value, the personal interview has been used by many medical and dental schools in the United States. However, in Canada in 1980, only four of the ten dental faculties interviewed applicants and the procedures varied from interviewing all applicants to interviewing on request, semistructured to unstructured interview, teams to single interviewer, etc. — the results of which had varying impact on selection decisions. Regardless, substantial amounts of faculty and staff time are consumed and the value of continuing to use interviews has been more vigorously questioned.

Critics cite the notoriously low reliability (consistency or repeatability) and validity (does it really measure what it is suppose to measure?) of the interview.^{23,24} The literature shows that very few of the more than 300 articles claiming to report on the interview are based on experimental studies. Most are opinion papers. Even those that do

report on experimental studies have little duplication of methodology, making generalization difficult, if not impossible.

In a review article on the selection interview from 1949 through 1964, Ulrich and Trumbo²⁵ found that the highest reliabilities are found where interviews are described as systematic, designed, structured or guided. They also concluded that there existed at least two areas of strength — quality of personal relationships and motivation to work. Schwab and Hannenan²⁶ reached essentially the same conclusions.

It appears that, despite popular claims that interviewing is of very limited value in selection, there exists little evidence to either support or refute those claims. For the most part, negative data have been derived from experimental situations which were highly artificial and bore little resemblance to actual interview conditions. The positive data are equally nebulous, making it impossible to differentiate between the effect of the interview and attributes of individual interviewers.

Very few studies exist that directly involve the efficacy of selection interviews for either dental or medical schools and as in the case with other studies, most suffer from some flaws in design. A team at the University of Iowa College of Dentistry^{27,28} has reported what is probably the most systematic attempt to explore the value of the structured interview, using an instrument developed by Selection Research, Inc. (SRI). They were able to add to information not otherwise obtained through their admissions process (undergraduate grades and DAT). The interviews had an acceptable reliability, however, senior students for whom performance outcomes were known were interviewed rather than applicants. Conclusions were then generalized to characteristics of the practising dentists, although the criteria of a "successful" dentist were not identified. Despite some flaws, the study is significant in a number of respects. The situation closely simulated the actual interview setting and the results do suggest that when certain principles are used in developing and executing the interview, the results are a greater standardization of what transpires.

Although many critics of the interview cite its failure to meet the standard psychometric criteria of "goodness" — reliability, construct and predictive validity — most of the proponents of the interview have failed to consider these measures when developing procedures or assessing the effectiveness of the instrument. Unless or until an instrument can be designed which shows acceptable inter-rater reliability, construct validity and predictive validity of important outcomes, its use in selection is open to question.

In an effort to address this important issue, Dr. W.R. Teteruck, Chairman of the Canadian Dental Association's Dental Admission Test Committee (DAT), surveyed the Canadian dental faculties to determine the desire for an effective interview instrument for admissions purposes. A

positive response from nine of the ten (one already had a format in place with which they wished to continue) resulted in the formation of an interview development and validation committee. The task of this group was to design a long-term interview study that would meet the standard psychometric measures of "goodness" and implement the interview on a national basis.

Development of a Structured Interview Instrument

The objectives for the use of an interview for selection were twofold:

- a) to obtain information that would be difficult or impossible to obtain by other means, and
- b) to obtain information which is considered necessary for the purpose of making selection decisions.

Research evidence indicates that an interview is most reliable when it is structured and limited to those variables which it can best assess — i.e. motivation and interpersonal skills. Obtaining academic data is left to traditional measures that accomplish this very well — i.e. grade point average.

The committee reviewed the literature and determined those characteristics which were common to the majority of selection interviews. Initially this was an inclusive process whereby many criteria were considered but later eliminated because they seemed impossible to measure. Others were eliminated if there was definite overlap between criteria or if the criterion reflected compound traits rather than a single trait. Seven criteria were selected as the most appropriate to be measured.

Because words can have very different meanings for each individual, the committee defined each of the criteria. This not only helped to establish an understanding but also eliminated confusion and identified overlap between criteria.

The seven characteristics are briefly defined as follows:

CRITERION	DEFINITION
1. Motivation	— desire; related interests (hobbies, skills); knowledge of profession.
2. Ability to relate	— interaction with broad range of people; awareness of feelings; interest and concern for others.
3. Adaptability	— receptive; willingness/ability to adapt; respect for alternate values; responsiveness to unexpected change.
4. Self-appraisal	— ability/willingness to introspect; self-assessment; self-concept.
5. Maturity	— judgement; acceptance of responsibility, including consequences; responds appropriately to given situation.
6. Principles	— ethical and moral responsibility; strength of standards and beliefs.

7. Sense of responsibility — dependable; balances self-interest with those of others; lives up to commitment; sets priorities.

In addition, it was felt that a global, overall assessment of the applicant should be recorded.

These criteria were then assessed by faculty and students at one institution for their perceived importance for inclusion in the interview. The group polled included faculty members (n=25) who had been or were a part of the admissions committee as well as those who had never served on that committee. Students responding (n=31) were in the junior and senior years. In the faculty's opinion, responsibility, motivation and principles/ethics were the most important, while adaptability and overall assessment were the least important. Students rated ability to relate, motivation and responsibility as most important and agreed with the faculty on adaptability and overall assessment as being least important.

The committee decided to include all eight criteria for research purposes and began to develop a bank of questions to assess them. This again aided in standardizing the definitions of the criteria and provided a reserve of questions so that the novice interviewer would not be faced with having to improvise a "good" question during the interview.

Two principles were applied to each question. It should be clear which criterion the question was attempting to measure, and the rationale for the question should be clearly stated and understood. In addition, the committee demanded that the questions meet the following design standards. Questions should assess information obtained directly or through observed behaviour rather than inferred judgements. They should be so structured as to minimize the effects of attitudinal bias or opinion and be open-ended to avoid a simple "yes" or "no" response.

Questions should not favor experiences to which only one group of applicants may have been exposed but should deal with personal past and present behaviours. Needless to say, all questions should meet a legal standard and not be offensive to the majority of applicants. Questions were not designed so that the "right" answer was the socially desirable answer, but rather required disclosure of personal values and attitudes. The expected depth of responses should be judged realistically in view of age, education and life experiences.

It is unlikely that all of the criteria will be amenable to measurement. However, part of the purpose of the study is to determine which, if any, of the traits being considered is measurable by means of the interview. In addition to the questions and overall assessment, a check list of other observations which might influence interviewers' judgements was incorporated. These included personal appearance, articulateness, shyness, aggressiveness, self-confidence, and assertiveness.

A scale by which the criteria could be rated needed to be established. It could be as simple as an overall rating of presence/absence or acceptable/unacceptable or be more elaborate with several intervals of rating for each criterion. In this case, a five-point scale was selected — below average, average, good, very good and outstanding. Regardless of the scale, it is important to train evaluators to use the full range and not be restricted to the middle ratings.

In order to standardize the application of the five-point scale of quality of the applicant's response, the committee developed several criteria for each evaluator's consideration. These were:

1. Consistency of response — does response hold through various lines of questioning? Are reported behaviors consistent with interview behaviors?
2. Depth of understanding — do they demonstrate a real understanding of issue or problem or are responses glib or shallow?
3. Conviction — are responses wishy-washy? Are they able to hold convictions without being rigid?
4. Absence of social desirability — does the applicant attempt to please you? Can he/she respond in absence of any cues or seeming disapproval?
5. Conceptualization of questions — can the applicant deal with concepts or does he/she require concrete examples? Is he/she able to find a central meaning from a range of facts?

These guidelines are to be considered in the light of the applicant's age, background, and the opportunities which he/she might have had. Thus, a response from an 18-year-old may vary in quality from that of a 25-year-old — yet given the differences in age, may be considered equally adequate.

Evaluation of the instrument — reliability and validity

The criteria as defined were rated by a panel of judges as to their appropriateness and agreement with suggested definitions. Interviewers would participate in a specially designed training workshop, and reliability of the interview instrument would be tested through inter-rater consistency of evaluations. Test-retest reliability could be established by rating reapplicants, using a parallel form of the interview. Inter-item, overall correlation of the criteria and factor analysis would determine the degree of uniqueness of each criterion.

It is possible, of course, to develop an instrument which exhibits good reliability and construct validity but fails to predict future behaviors; but recent preliminary studies have suggested that it may be possible to predict future outcomes.^{27,29} For purposes of this study, a listing of possible short- and long-term outcome measures have been identified.

Short-term data generated during undergraduate education are easily collected. However, such data are probably not uniform from school to school. These could be criteria of academic performance and student progress, including

dismissals and withdrawals, and criteria of personal qualities and behavior. Academic performance is best predicted by other measures, but the interview may be useful in predicting progress difficulties or personal behavior situations.

Ongoing evaluation following graduation will involve long-term outcome measures that will be more difficult to collect and interpret. Nevertheless, these are of greatest interest — measures of effectiveness of practitioners. They would include criteria of quality of practice, practice profiles and satisfaction with the profession. The gathering of such data should also prove useful in providing a greater insight into the nature and scope of problems besetting the practice of dentistry.

Implementation

Each participating dental school forms a natural experimental group. These groups will vary in some of the independent variables, such as length of interview, number of interviews, number and type of interviewers, informed versus uninformed interviewers, etc. Interviewer variables will be experience, background, specific interviewer training and its proximity to the actual interview process, fatigue and consistency of interview teams.

The degree to which each admissions committee uses this information is their own decision. It would be best for research purposes if the interview results did not affect the decision to admit or reject, for unless those who might have been rejected by this process are allowed to enter dental school, it will be difficult to establish whether or not the interview does provide useful information. At the moment there is no way of proving if the information is valid or false, and yet the process and training has provided such confidence (or improvement over what has been used previously) that all are using it to some degree.

As of the 1981-82 academic year, six faculties have undergone interview training and five have used the structured interview for their dental applicants. Each has used the results in a different way to influence the admissions decision (i.e. not at all, weight of 20 per cent, etc.). Due to the standardization of the structured instrument, information can be shared between faculties. For example, out-of-province applicants can be interviewed elsewhere and their rating communicated to the chosen faculty, thereby reducing travel and expenses for the applicant.

RESULTS

Data gathered at the universities of British Columbia and Alberta (1980) by three-member interview teams showed inter-rater reliability correlation coefficients of .83, .87 and .86 ($n=280$).³⁰ All were significant at the .001 level. Factor analysis of the subscores associated with the eight criteria loaded high on one factor. Therefore it would seem that the criteria are not statistically independent but reflect personality in general. Other variables considered in the factor analysis (DAT academic scores,

chalk carving and Perceptual Motor Ability Test) did not load with the interview subscores. Therefore information gained from the interview would constitute a new dimension for assessment not previously available. Similar data were gathered at the same institutions for applicants to the 1981 class. Analysis of the second set of data indicated the statistics from the 1980 data were stable. Inter-rater reliability correlations by the three-member interview teams were .79, .79 and .80 (N = 274). All were significant at the .001 level. A reliability coefficient alpha of .92 was also obtained. Data from the other institutions are being gathered and analysed in the same way on an ongoing basis. More detailed methodology and statistical analysis can be found in a recent publication.³⁰

The results of an applicant questionnaire were extremely positive. Candidates felt the interview was needed, was fair and that they had been treated in an appropriate manner.

CONCLUSION

This study showed that it is possible to construct a structured interview, to train individuals to use it effectively and reliably and to obtain information that would be difficult to gather by any other means. Future validation studies will determine what contribution the structured interview will make in the prediction of success in dental school and dental practice.

This project was initiated under the leadership of Dr. W.R. Teteruck, Chairman of the DAT Committee. Other members of the study group included Drs. M.A. Boyd, I.C. Bennett, J.W. Graham, J. Krupka and G.W. Thompson.

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Reprint requests to Dr. Boyd.

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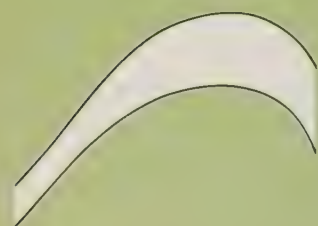
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1. Dunlap, J.L. and Stewart, D. *Suggestions to alleviate dental stress*. Dental Economics, v. 72, no. 3, March 1982, pp. 58 - 60, 62, 64.
2. Dyce, J.M. *A general practitioner's approach to stress*. Quintessence International, v. 8, no. 6, June 1977, pp. 91-95.
3. Forrest, W.R. *Stresses and self-destructive behaviors of dentists*. Dental Clinics of North America, v. 22, no. 3, July 1978, pp. 361-371.
Abstract: "The practice of dentistry is both a rewarding and a demanding profession, and the dentist's well-being may depend largely on how successfully he learns to keep the rewards and demands of his job in proper perspective. In order to achieve a desirable balance he needs to identify the causal factors of stress and strain and take measures to eliminate, or at least lessen, their negative impact on his emotional health. This may involve a reevaluation of life style, health habits, and personal goals."
4. Gehrman, R. *In search of serenity*. Dental Management, December 1977, pp. 45-53.
5. Harris, N.O. and Crabb, L.J. *Ergonomics, Reducing mental*

and physical fatigue in the dental operatory. Dental Clinics of North America, v. 22, no. 3, July 1978, pp. 331-345.

Abstract: The work output and the mental and physical fatigue generated by a dental procedure is affected by the length and type of operation, physical facilities, the amount of cooperation given by the patient, operating techniques, and the effective teamwork and rapport of the operatory dental team. Fatigue is also generated by stresses that arise outside of the office and which, when superimposed over the normal operating stresses of the office, can have a cumulative effect of decreasing output and increasing mental and physical fatigue for the dentist, the assistant, and the patient. Probably the three most important means to compensate for both routine and nonroutine physical and mental stresses of any type or origin are: (1) learn to cope with or resolve the origin of the stress; (2) develop a pattern of health living; (3) cultivate job satisfaction.

6. Horseman, R.E. *Are you burned out on burnout?* California Dental Association Journal, v. 9, no. 9, September 1981, pp. 9-10.
7. Jackson, E. and Mealiea, W.L., jr. *Stress management and per-*

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sonal satisfaction in dental practice. Dental Clinics of North America, v. 21, no. 3, July 1977, pp. 559-576.

8. Jelinek, M. *Preventive cardiology as it affects the dentist's own health*. Australian Dental Journal, v. 23, no. 4, August 1978, pp. 319-321.
9. Katz, C.A. *Reducing interpersonal stress in dental practice*. Dental Clinics of North America, v. 22, no. 3, July 1978, pp. 347-359.
Abstract: Inherent in the dental situation is the potential for a great deal of interpersonal stress. While the particular areas of stressful interaction are as numerous and varied as are the approaches to deal with such situations, what may be of ultimate importance is what an individual tells himself or herself about such situations. Stresses become distressful when we interpret them as terrible, unfair, or catastrophic, rather than as unfortunate or undesirable; perhaps the inevitable result of the general nature of the human condition. We may not have the power or ability to control many external stress-producing events, but we do indeed have the ability to alter how we feel about such events by becoming aware of our self-defeating beliefs and negative self-talk.

10. Klein, A.J. *Personal satisfaction for the dental practitioner*. Dental Clinics of North America, v. 22, no. 2, April 1978, pp. 187-196.
11. Lang, R. *Stress in dentistry — it can kill you!* Oral Health, v. 71, no. 9, September 1982, pp. 6-10.
12. Morse, D.R. *How to kick your stress habits*. Dental Management, v. 22, no. 2, February 1982, pp. 28-32.
13. Newbury, C.R. *Tension and relaxation in the individual*. International Dental Journal, v. 29, no. 2, June 1979, pp. 173-182.
Abstract: Increasing materialism in society is resulting in more widespread nervous tension in all

age groups. While some degree of nervous tension is necessary in everyday living, its adverse effects require that we must learn to bring it under control. Total tension is shown to have two components: a controllable element arising from factors in the environment and the inbuilt uncontrollable residue which is basic in the individual temperament. The effects of excessive or uncontrolled stress can be classified as 1) emotional reactions such as neurotic behaviour and 2) psychosomatic reactions. Nervous energy can be wastefully expended by such factors as loss of temper, wrong attitudes to work, job frustration and marital strains. Relaxation is the only positive

way to control undesirable nervous tension and its techniques have to be learned.

14. Powers, W.J. and others. *Stress in dentistry: a survey of military dentists*. Dental Survey, v. 56, no. 4, April 1980, pp. 64-68.
15. Rosow, J. *Stress: a serious problem in dentistry*. Journal of the Connecticut State Dental Association, v. 56, no. 1, January 1982, pp. 8-10.
16. Ruel-Kellermann, M. *Le stress relationnel chez le chirurgien-dentiste*. Revue d'Odonto-Stomatologie, v. 9, no. 4, July-August, 1980, pp. 25-29.

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The following current acquisitions are available on loan from the Resource Centre/Library.

1. Burkhardt, Arne and Maeker, Reinhard. *A Colour Atlas of Oral Cancers*. Chicago, Ill.: Yearbook Medical Publishers, 1981. 186p. 1 copy.
2. Canada Health and Welfare. Information Systems Directorate. *Canada Health Manpower Inventory 1981*. Ottawa: Minister of Health and Welfare, 1982. 281p. 1 copy.
3. Gilmore, H. William and others. *Operative Dentistry*. 4th ed. Toronto: Mosby, 1982. 379p. 1 copy.
4. Goaz, Paul W. and White, Stuart C., editors. *Oral Radiology, Principles and Interpretation*. Toronto. Mosby, 1982. 695p. 1 copy.
5. Lacasse, D.J.A. *Analysis of Social and Economic Impact for the Proposed Introduction of a Standard for Dental Amalgam Alloys*. Rexdale, Ont.: Canadian Standards Association, 1982, various paging. 1 copy.

NOUVEAUX TITRES EN BIBLIOTHÈQUE

Les titres indiqués ci-dessous sont maintenant disponibles à la bibliothèque/centre de documentation de l'ADC.

6. Little, James W. and Falace, Donald A. *Dental Management of the Medically Compromised Patient*. Toronto: Mosby, 1980. 255p. 1 copy.
7. Morgan, Douglas H., editor. *Diseases of the Temporomandibular*

Apparatus: a Multidisciplinary Approach. 2nd ed. Toronto: Mosby, 1982. 659p. 1 copy.

8. Preiskel, Harold Wilfred. *Precision Attachments in Dentistry*. 3rd ed. London: Kimpton, 1979. 292p. 1 copy.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association's Retirement Savings Plan stood as follows on January 31, 1983.

<i>Common Stock Fund</i>	\$63.5503
<i>Fixed Income Fund</i>	\$34.0694
<i>Guaranteed Fund</i>	\$25.3965
<i>Balanced Fund</i>	\$13.1466

Total assets (market value) of the plan were \$34,027,955.

The previous month's figures, as of December 31, 1982, stood as follows:

<i>Common Stock Fund</i>	\$62.1959
<i>Fixed Income Fund</i>	\$33.8400

<i>Guaranteed Fund</i>	\$25.1782
<i>Balanced Fund</i>	\$12.8708

Total assets (market value) of the plan were \$33,686,422.

For further information write to: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3 or call the central information services of CDSPI at 1-800-268-5418 (toll free number for Western Canada, Atlantic Canada and Ontario for Code 807 only), 1-800-268-3411 (toll free number for Quebec and Ontario except Code 807), and 497-7117 (Metro Toronto area).

FDI — Congrès et rapport scientifique

par le Dr William R. Thompson
trésorier national

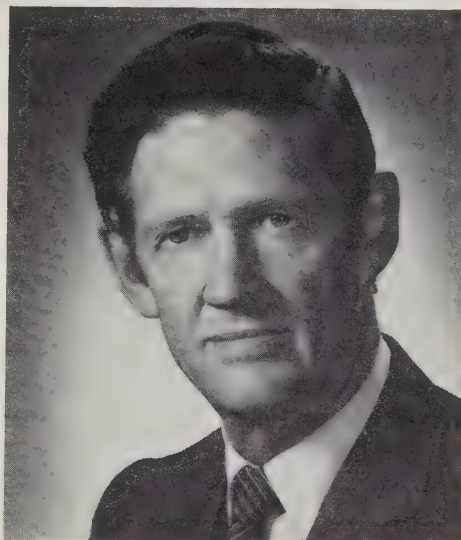
Congrès de Vienne, octobre 1982

Cinquante-six pays ont envoyé des représentants officiels à l'Assemblée générale de la FDI tenue à Vienne et plusieurs autres pays y étaient représentés par des dentistes qui y ont participé à titre personnel. L'Association dentaire canadienne était officiellement représentée par le Dr William R. Thompson, président et trésorier national, et par le Dr Donald E. Williams, président sortant.

On a compté 4 427 dentistes venant de 79 pays différents et une assistance générale de 9 253 personnes (y compris les conjoints, les étudiants, les exposants, etc.). Avec 362 participants, le Canada s'est placé au sixième rang (derrière la République fédérale d'Allemagne, la Suède, les États-Unis, l'Autriche et les Pays-Bas, juste avant le Japon et la France).

Pour la deuxième année, les Drs T. Aggeryd (Suède) et Jardiné (France) restent respectivement président et président désigné de la FDI. Le professeur George Beagrie, doyen de l'Université de la Colombie-Britannique, agira encore comme président de la Commission de l'éducation et l'exercice dentaires, l'une des quatre commissions de la FDI. Les Drs Ross (Nouvelle-Zélande) et Telivuo (Finlande) ont été élus membres du Conseil exécutif. Le Dr Telivuo est la première femme dentiste à recevoir cet honneur.

Neuf conseillers canadiens ont été choisis pour faire partie des commissions. Ce sont les Drs G.S. Beagrie, W.R. Bedford, J.S. Stamm et D.W. Lewis (Commission de la santé bucco-dentaire, des recherches et de l'épidémiologie), les Drs D. Donaldson, G. Kravis et M.F. Williamson (Commission de l'éducation et l'exercice dentaires), le brigadier général



Dr Thompson

J.N. Wright et le Dr W.R. Thompson (Commission des services dentaires dans les forces de défense). Le Dr T.N. Curry a terminé son mandat auprès de la Commission de la santé bucco-dentaire, des recherches et de l'épidémiologie en 1982.

Les délégués de l'ADC ont assisté aux assemblées générales A et B, à l'assemblée des trésoriers nationaux, à la période de questions ainsi qu'à de nombreuses assemblées de comités. De plus, ils ont rencontré l'observateur de l'Association dentaire américaine et plusieurs autres délégations nationales.

Parmi les nombreux sujets discutés qui concernent la FDI, il convient de mentionner les plus importants, soit les activités des groupes de travail des commissions, les moyens d'augmenter le nombre des membres de soutien, la situation financière générale de la FDI relativement au retrait de l'Association dentaire américaine en 1982 et, bien entendu, plusieurs points des programmes scientifiques de la FDI dont quelques-uns sont indiqués ci-dessous.

La situation financière de la FDI a été dangereusement compromise, le retrait de l'Association dentaire américaine ayant entraîné une perte de

revenu provenant des cotisations. Il a donc fallu utiliser les fonds de réserve pour 1982 et établir un budget d'urgence pour réduire les dépenses. Le Conseil exécutif a également révisé tous les éléments structurels de la FDI et apporté de nombreuses améliorations touchant les finances, les procédures et l'organisation.

Lors d'une assemblée tenue en novembre 1982, l'Association dentaire américaine a reconnu que la FDI avait amélioré son organisation de façon concrète et a décidé d'en faire partie à nouveau à compter du 1^{er} janvier 1983.

Par ailleurs, la FDI se propose de créer une filiale, l'Association de la FDI pour le développement de l'éducation, des sciences et de la santé. Cette association sera dotée d'un Comité consultatif et éthique qui agira à titre de conseiller. Une firme du Royaume-Uni, l'*International Dental Services Organisation* (l'Organisation internationale des services dentaires), qui construira des cliniques dentaires au Moyen-Orient et ailleurs et qui les dotera d'un personnel, fera appel aux services de la nouvelle association, ce qui constituera une nouvelle source de revenu imprévue pour la FDI.

Programme scientifique

Bien que les affaires des quatre commissions de la FDI, dont on a fait état dans le numéro de décembre 1981 du Journal de l'ADC, aient été élaborées, prolongées ou terminées et que d'autres affaires aient été entreprises, le rapport de cette année tiendra compte seulement des affaires de la FDI qui se déroulent conjointement avec celles de l'Organisation mondiale de la santé (OMS).

1. La santé dentaire en l'an 2000

Ce projet d'envergure fait partie du programme de l'OMS intitulé "Santé pour tous en l'an 2000." Son but est de définir des

Suite à la page suivante

objectifs concrets afin de prévenir et de traiter, d'ici l'an 2000, les maladies dentaires de la population du monde entier. De plus, tout sera fait pour atteindre ces objectifs.

2. Le changement des habitudes en hygiène bucco-dentaire

Il s'agit d'une étude portant sur la santé dentaire dans certains pays industrialisés et, plus précisément, sur la demande en soins dentaires, sur les facteurs touchant cette demande et sur les mesures prises pour accroître celle-ci. L'étude fera également état de la situation dans plusieurs pays en voie de développement où l'hygiène dentaire se détériore.

3. La main-d'oeuvre dentaire

Cette étude sera une révision des renseignements dont disposent la FDI et l'OMS touchant la main-d'oeuvre dentaire par rapport à la population. Cette étude se fera de pair avec la précédente et servira à établir des lignes de conduite pour les principes régissant la planification de la main-d'oeuvre dentaire.

4. Le projet international de développement coopératif dans le domaine de la santé bucco-dentaire

Ce projet vise à susciter pour les dentistes des pays industrialisés des occasions de travailler dans les pays en voie de développement. Les points principaux de ce projet seront la promotion de la santé, la prévention et le traitement des maladies bucco-dentaires ainsi que la formation d'un personnel dans les pays en voie de développement pour s'occuper de certains aspects de la prévention. On fera appel à des dentistes des pays évolués, demandant au besoin à ces pays de les supporter financièrement en tout ou en partie afin de les envoyer travailler pendant une période de temps déterminée dans des pays en voie de déve-

loppement où la main-d'oeuvre professionnelle fait défaut.

5. La planification complète des services de santé bucco-dentaire avec une attention spéciale accordée aux maladies parodontaires (Projet présidé par le professeur G.S. Beagrie, de Vancouver)

Cette étude se propose, premièrement, d'établir des moyens afin de déterminer le temps requis pour fournir divers services parodontaires et, deuxièmement, d'évaluer la précision relative des autres choix de dents dans les évaluations parodontaires et de poursuivre les travaux en vue de la publication du répertoire parodontaire en matière de besoins en rapport avec les traitements. Cet ouvrage était déjà terminé avant le Congrès de Vienne et paraîtra sous peu. Grâce à cette publication, les praticiens généraux disposeront d'un outil simplifié qui leur permettra d'évaluer rapidement ce qu'un traitement parodontaire peut exiger.

6. La méthodologie statistique appliquée à l'épidémiologie dentaire

Ce projet comprend les méthodes pour améliorer les études en épidémiologie dentaire, l'identification des banques de données

dentaires à travers le monde et une révision des publications sur la méthodologie statistique appliquée à l'épidémiologie dentaire.

Futurs congrès

1. 1983 — Tokyo (Japon), du 1 au 19 novembre
1984 — Helsinki (Finlande) du 25 au 31 août
1985 — Belgrade (Yougoslavie)
1986 — Manille (Philippines)
Les participants doivent être membres de soutien de la FDI

2. Le congrès qui aura lieu à Tokyo cette année est entièrement préparé, le thème principal étant "la longévité de la denture de l'homme." On s'intéressera surtout aux mesures de prévention pour conserver les dents naturelles le plus longtemps possible et aux derniers progrès qui ont été faits en ce sens en dentisterie.

Membres de soutien canadiens

Les dentistes canadiens peuvent devenir membres de soutien de la FDI (cotisation: 35 dollars canadiens) ou s'abonner en plus au Journal dentaire international (cotisation: 60 dollars canadiens). Les demandes doivent être adressées au siège social de l'ADC. Pour ceux qui en feront la demande, on joindra le programme préliminaire du Congrès de Tokyo et leur carte de membre.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 janvier 1983.

<i>Fonds d'actions ordinaires</i>	\$63.5503
<i>Fonds à revenu fixe</i>	\$34.0694
<i>Fonds garanti</i>	\$25.3965
<i>Fonds de placement</i>	\$13.1466

L'avoir total (valeur marchande) du régime s'élevait à \$34,027,955.

Au 31 décembre 1982, les chiffres du mois précédent étaient les suivants:

<i>Fonds d'actions ordinaires</i>	\$62.1959
<i>Fonds à revenu fixe</i>	\$33.8400

<i>Fonds garanti</i>	\$25.1782
<i>équilibré</i>	\$12.8708

L'avoir total (valeur marchande) du régime s'élevait à \$33,686,422.

Pour de plus amples renseignements, veuillez écrire à l'adresse suivante: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3, ou appeler le service de renseignements du CDSPI en composant 1-800-268-5418 (appel sans frais pour l'Ouest canadien, les Maritimes et l'Ontario où le code est 807 seulement), 1-800-268-3411. (appel sans frais pour le Québec et l'Ontario sauf où le code est 807), et 497 7117 (Région métropolitaine de Toronto).

ADHÉSION À LA FÉDÉRATION DENTAIRE INTERNATIONALE

On peut maintenant se joindre à la Fédération Dentaire Internationale ou y renouveler son adhésion pour l'année 1983. En 1982, le nombre des membres de soutien canadiens était remarquable et plusieurs d'entre eux ont participé au Congrès tenu à Vienne. On espère que les dentistes canadiens continueront à appuyer la F.D.I. en très grand nombre. Seuls ceux qui renouvelleront leur adhésion continueront à recevoir le Bulletin de la F.D.I. après le numéro de mars 1983. Rappelons qu'il faut être membre de soutien de la F.D.I. si on désire assister au Congrès qui aura lieu à Tokyo, au Japon, du 14 au 20 novembre 1983.

Les personnes voulant participer à ce congrès mondial doivent être membres de soutien de la Fédération, et pour pouvoir être membres de soutien de la F.D.I., les dentistes canadiens doivent être de l'Association dentaire canadienne.

Pour se joindre à la F.D.I., la cotisation est de 35\$ canadiens, et de 60\$ canadiens si l'on désire recevoir en plus le Journal dentaire international. L'Association dentaire canadienne vous exhorte non seulement à vous joindre à la F.D.I., mais aussi à encourager vos collègues à s'y joindre.

En devenant membre de la F.D.I., vous donnez votre appui à un organisme dont le but est d'améliorer la santé à l'échelle mondiale conjointement avec l'Organisation mondiale de la santé et grâce à des échanges de connaissances scientifiques sur le plan international. Une partie des frais de cotisation sert également à couvrir les frais d'administration encourus par l'A.D.C. en rapport avec le programme de recrutement de la F.D.I..

Veuillez remplir le formulaire ci-joint et le retourner avec votre contribution à l'Association dentaire canadienne, 1815, promenade Alta Vista, Ottawa (Ontario) K1G 3Y6.

Les formulaires d'inscription au congrès de Tokyo vous parviendront avec votre reçu et votre carte de membre pour l'année 1983.

L'ASSOCIATION DENTAIRE CANADIENNE
1815, promenade Alta Vista, Ottawa, (Ontario) K1G 3Y6

DEMANDE D'ADHÉSION À LA FÉDÉRATION DENTAIRE INTERNATIONALE

- Pour établir des contacts avec des dentistes du monde entier
- Pour devenir un représentant de votre profession dans la communauté internationale
- Ces montants couvrent également les frais d'administration, le prix du change sur la monnaie américaine et les frais de représentation de l'ADC auprès de la FDI

_____ \$35 Membre de soutien de la FDI et abonnement au bulletin trimestriel.

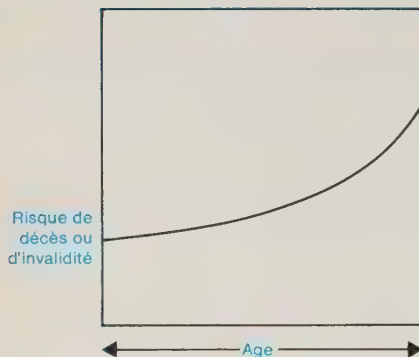
_____ \$60 Membre de soutien de la FDI et abonnement au Journal dentaire international

NOM _____ ADRESSE _____

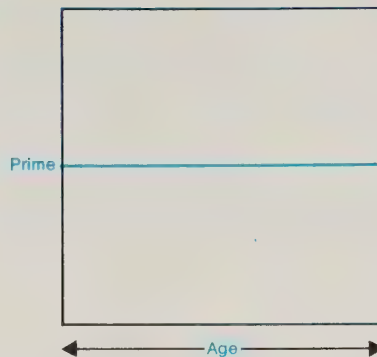
LES FRAIS NE S'APPLIQUENT PAS AUX PERMIS D'EXERCER. Il s'agit d'un avis pour votre cotisation annuelle comme membre de soutien de la FDI. On vous prie de retourner ce formulaire rempli, avec un chèque ou un mandat payable à l'ADC; vous recevrez un reçu et votre carte de membre par le retour du courrier.

Les assureurs aiment vendre des assurances vie et invalidité à PRIME CONSTANTE

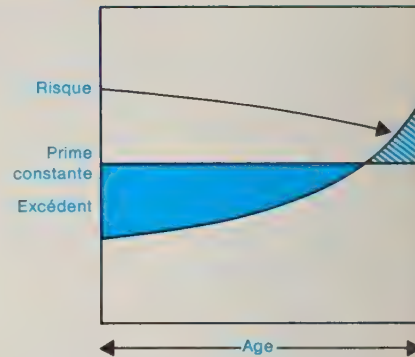
Nous n'en vendons aucune. Voici pourquoi.



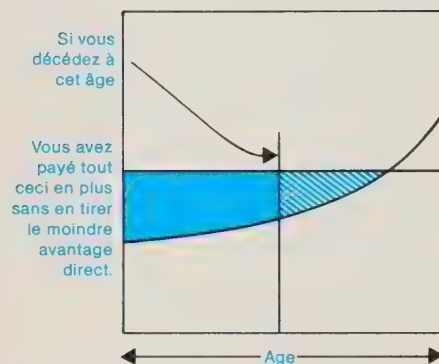
Plus vous vieillissez et plus grand est le risque d'invalidité ou de décès. Puisque le risque augmente pour l'assureur vous vous attendriez normalement à ce que votre prime augmente aussi.



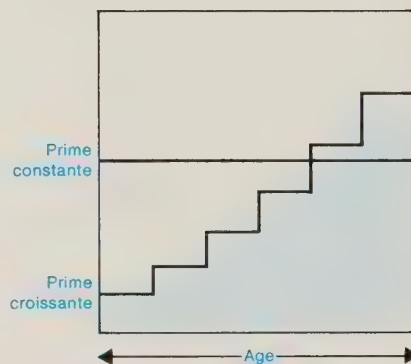
Mais de nombreux assureurs vous garantissent une prime constante, c'est-à-dire une prime qui n'augmente pas à mesure que vous vieillissez. Cela semble être une bonne affaire, n'est-ce pas ?



En fait l'assureur vous fait simplement payer plus au début et met l'excédent de côté pour faire face à des frais plus élevés par la suite. Il a ainsi l'utilisation de votre argent pendant de longues périodes sans que cela lui coûte cher. Vous auriez pu utiliser cet argent vous-même, pour payer une partie de votre hypothèque, pour investir dans votre cabinet ou pour faire des placements.



Mais si vous décédez ou êtes frappé d'invalidité avant que tout l'excédent soit utilisé, l'assureur ne paiera quand même que les sommes prévues par le contrat. Vous ou votre bénéficiaire ne pourrez jamais profiter directement de l'excédent.



Toutes les assurances vie et invalidité du RADC sont à prime croissante, c'est-à-dire que la prime augmente tous les cinq ans pour suivre l'augmentation du risque. Dans 99 % des cas, la prime initiale d'un contrat à prime croissante sera inférieure à

celle d'un contrat à prime constante, pour le même montant de garantie. Vous avez une garantie plus étendue pour une prime moins élevée dans les premières années ; vous conservez plus d'argent à votre disposition.

Le régime d'assurance des dentistes du Canada est conçu pour profiter aux participants, à personne d'autre. Pour vos assurances, pensez d'abord aux régimes de vos propres associations.



**Le régime
d'assurance
des dentistes
du Canada**

Pour un service personnalisé ou pour tout problème d'assurance, contacter le Service de renseignements du CDSPI, à n'importe quelle heure :

1.800.268.54.18

1.800.268.34.11

497.71.17

Provinces de l'Ouest, provinces atlantiques et région de l'Ontario avec l'indicatif régional 807

Québec et Ontario, **sauf** pour la région avec l'indicatif régional 807

Toronto et environs

Vancouver — site du Congrès de l'ADC 1983

L'homme a donné à la ville de Vancouver un attrait incomparable, mais la nature l'a pourvue d'un cadre prodigieusement spectaculaire.

Vancouver, le troisième plus grand centre urbain du Canada, a été choisi pour le prochain Congrès de l'Association dentaire canadienne, du 25 au 28 septembre 1983.

Les organisateurs du Congrès prévoient une assistance record. Et nul doute que la majesté et la splendeur du site sera le facteur déterminant qui convaincra les gens de participer au Congrès.

Le Journal de l'ADC donnera plus de détails sur les activités du Congrès.

Entre-temps, compte tenu du nom-



Vancouver, chef-d'oeuvre urbain créé par l'homme et la nature.

bre de personnes que le Congrès est susceptible d'attirer, il serait sage de

commencer à planifier votre voyage dès maintenant.

Mise au point des particularités du Programme

Les derniers détails concernant le Congrès sont en voie d'être parachévés.

Le Programme qui comprend des expositions scientifiques, des réunions-débats, des démonstrations cliniques et un nombre record de présentations, d'événements sociaux et sportifs ainsi qu'une séance de culture physique, offrira certainement des moments qui sauront intéresser les dentistes et leurs conjoints.

Les présentations scientifiques du lundi, 26 septembre, comprendront:

- La Conférence "Grieve Memorial"
- Un atelier sur l'occlusion
- Le symposium du CRDC sur les maladies parodontiques
- Un atelier sur la chirurgie buccale
- Un atelier sur le contrôle de l'infection
- Série de cours sur la prothèse fixe, l'occlusion et

• la prothèse amovible

du mardi, 27 septembre

- Conférence éducative de l'ADC: pratique dentaire
- Atelier sur le contrôle du cancer
- Atelier en parodontie
- présentations de dentisterie restauratrice,
- photographie intra-orale et l'avenir de la médecine dentaire.

Le mercredi, 28 septembre, une autre Conférence éducation de l'ADC sera de nouveau présentée en même temps que des séances de parodontie et de dentisterie judiciaire. Il y aura aussi une séance du matin sur les exemptions de taxes et sur les placements.

Les démonstrations cliniques

Les démonstrations cliniques de même que celles des étudiants seront offertes le mardi après-midi et le mercredi matin.

Le Programme social

Le Programme social du Congrès sera inauguré dans la soirée du dimanche lors de l'inscription des délégués. Ce sera ni plus ni moins qu'une partie de plaisir dénuée de toute cérémonie. Une autre soirée sans formalité est prévue pour le lundi.

"Le Fantaisie du Président" comprendra le souper, les cocktails et la danse et aura lieu sera cédulée pour le mardi, 27 septembre.

Pour les délégués fervents de sports et de conditionnement physique, le "Funn Runn" sera encore de la partie. Il aura lieu au fameux "Stanley Park" de Vancouver.

Les conjoints pourront prendre part à des excursions, à la cafés-causeries et à des séances de conditionnement physique le matin.

La plupart des événements auront lieu à l'Hôtel Vancouver.

Assurance générale — Protection contre les pertes — CDSPI

1982 constitue une année record pour le nombre des réclamations touchant les dommages causés par l'eau, les vols, le vandalisme et la responsabilité civile non professionnelle qui ont été déposées en vertu du régime d'assurance des dentistes du Canada. Non seulement le nombre des réclamations augmente-t-il à un rythme effarant, mais encore la somme moyenne des indemnités augmente-t-elle aussi rapidement.

Tout dentiste a des intérêts à défendre ici, pouvant aider à ralentir l'intensification du nombre des réclamations et même à renverser la tendance qui s'est affirmée au cours des dernières années.

En tant que dentiste intéressé à avoir le moins d'ennuis possible, vous n'avez pas besoin des agacements et des problèmes associés aux réclamations. Aussi gardez présents à l'esprit les conseils suivants.

Conseils pratiques

1. Connaissiez bien votre équipement. Sachez comment fonctionnent les installations qui apportent l'eau à votre fauteuil. Insistez pour obtenir des raccords avec pinces de manière à éviter les séparations soudaines sous l'effet d'une augmentation de la pression.
2. Ne placez pas un portemanteau près d'une porte, tentant ainsi les voleurs qui peuvent y prendre rapidement un manteau dispendieux en cuir ou en fourrure.
3. Si votre cabinet est situé dans une zone où les risques sont élevés, songez à installer un avertisseur d'incendie ou une sonnerie antivols.

4. Veuillez à ce que votre équipement soit entretenu de façon régulière.
5. Ne quittez jamais le bureau de réception sans fermer la caisse à clef et sans cacher les objets de valeur.
6. Disposez d'un robinet principal pour l'eau et assurez-vous qu'il est fermé chaque soir et durant les fins de semaine.
7. Ne laissez pas traîner montres, bagues ou bijoux dispendieux sur votre pupitre, mais rangez-les dans un coffret de sûreté, une chambre ou une armoire fermée à clef quand vous ne les portez pas.
8. Gardez votre cabinet propre, libre de boîtes, fils électriques ou autres objets qui pourraient constituer des obstacles dans les endroits où circulent les patients.

9. Assurez-vous pour des sommes suffisantes. L'assurance contenue doit couvrir le coût actuel de remplacement de votre équipement, de vos meubles des améliorations apportées aux locaux que vous louez.

10. Prenez des précautions pour les objets de valeur. Munissez les portes de bonnes serrures si les fenêtres sont accessibles verrouillez-les bien également.

Dans tout cabinet dentaire, on doit s'imposer comme règle ordinaire d'éviter les problèmes. Un très grand nombre de réclamations seraient évitées en prenant seulement des précautions toutes simples.

Vous protéger contre les pertes est entièrement votre avantage.

Douze nouveaux membres associés au CRDC

En décembre dernier, douze dentistes ont réussi les examens du Collège royal des dentistes du Canada pour en devenir membres associés.

Ce titre leur sera conféré officiellement lors de l'assemblée du collège qui aura lieu à Vancouver, le 24 septembre prochain.

Deux spécialistes en endodontie ont réussi les examens. Ce sont: le Dr Richard F. Hunter (Toronto, Ontario) et le Dr James E. McCormick (Palos Heights, Illinois).

En chirurgie buccale et maxillo-faciale, on compte sept dentistes qui ont été promus. Ce sont: le Dr Charles L. Consky (Windsor, Ontario), le Dr

Walter Dobrovolsky (Toronto, Ontario), le Dr Brian W. Draper (Nainimo, Colombie-Britannique), le Dr J. Richard Emery (Montréal, Québec), le Dr Timothy W. Head (Montréal, Québec), le Dr K. Ford Moor (Richmond Hill, Ontario) et le Dr Robert S. Sorochan (Thornhill, Ontario).

Les trois autres candidats reçus sont le Dr Hugh W. Lamont, spécialiste en orthodontie, de Victoria (Colombie-Britannique), le Dr David S. Richardson, spécialiste en pédiatrie, de San Antonio (Texas), et le Dr Donald G. Tustian, spécialiste en parodontologie, de Toronto (Ontario).

Neuf provinces acceptent la carte de crédit

Il se peut qu'on entende bientôt dans les cabinets dentaires du pays tout entier: "Payez-vous comptant ou par carte de crédit?"

Depuis que s'est répandu l'usage de la carte de crédit, neuf provinces sur dix acceptent ce mode de paiement pour les comptes médicaux. Seuls les dentistes de l'Ontario n'ont pas encore reçu du gouvernement l'autorisation d'utiliser les cartes de crédit.

Le secrétaire général du Collège royal des chirurgiens dentistes de l'Ontario, le Dr Ken Pownall, rappelle qu'en vertu de la Loi sur les disciplines de la santé, il est interdit aux dentistes d'accepter les cartes de crédit en Ontario.

À la fin de l'année 1982, le collège a demandé au gouvernement provincial de changer ce règlement. Toutefois, a remarqué le Dr Pownall, "on ne s'attend pas à une réponse rapide parce que le gouvernement est en train d'étudier tout le système des cartes de crédit."

Seules les cartes de crédit agréées par le CRCDO seraient utilisées pour l'acquittement des factures dentaires. Un patient ne pourrait pas, par exemple, utiliser la carte de crédit d'une compagnie d'essence pour payer son dentiste," a remarqué le Dr Pownall.

Les cartes que le CRCDO accepterait seraient les cartes Visa et MasterCard.

Précédent au Québec

Au Québec, le gouvernement a officiellement accordé aux membres de l'ACDQ l'autorisation d'utiliser les cartes de crédit.

D'après le président et directeur général de l'ACDQ, le Dr Claude Chicoine, l'association vient de verser 25\$ à la Banque Impériale de Commerce au nom de tous ses membres qui désirent accepter les cartes Visa comme mode de paiement.

En retour, les membres de l'ACDQ devront acquitter seulement les frais de location de l'imprimante pour cartes de crédit et la Banque de Commerce exigera d'eux seulement deux pour cent de leur volume d'affaires avec Visa.

Le Dr Chicoine précise que seuls les membres de l'ACDQ peuvent profiter de cet avantage et que les 25\$ versés au nom de tous les membres constituent un paiement unique.

Au Québec, on considère l'usage des cartes de crédit conforme à l'éthique et plusieurs dentistes le pratiquent depuis quelques années.

Ceci vaut également pour les huit autres provinces. Les patients de la Colombie-Britannique, de l'Alberta, de la Saskatchewan et du Manitoba peuvent payer leur dentiste avec une carte de crédit depuis plusieurs années déjà. M. Ross McIntyre, secrétaire-trésorier de l'Association dentaire du Manitoba, affirme que les dentistes de la province permettent à leurs clients

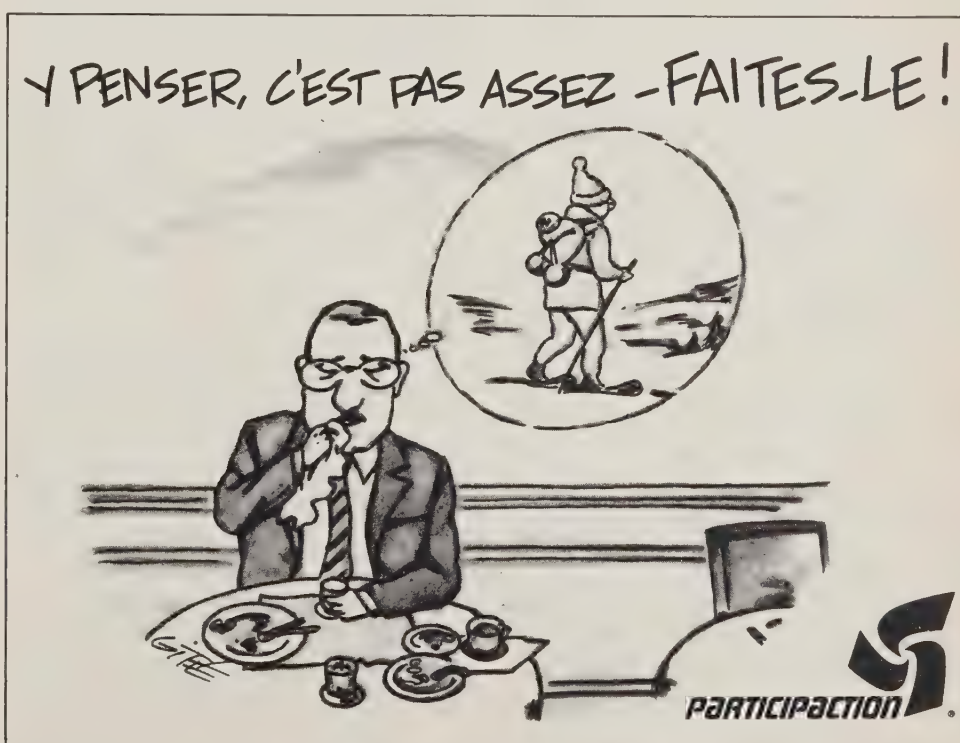
de payer avec une carte de crédit depuis 1969.

Aucun problème dans l'Ouest

Les trois autres secrétaires généraux des associations dentaires de l'Ouest ne signalent aucun problème tant pour les dentistes que pour les patients qui ont recours à ce mode de paiement. L'usage de la carte de crédit ne pose aucun problème dans l'Ouest.

Dans les Maritimes aussi, on considère que cet usage est conforme à l'éthique et à la loi depuis plusieurs années. Là non plus, les secrétaires généraux ne font état d'aucun problème. Cependant, payer son dentiste avec une carte de crédit n'est pas une habitude courante.

De l'avis du secrétaire général de l'Association dentaire de Terre-Neuve, "seulement trois ou quatre dentistes de Terre-Neuve permettent à leurs patients de payer avec leur carte de crédit, mais ce moyen a été accepté dans la province dès que les cartes de crédit ont fait leur apparition.



En bref —

Le Dr Daniel J. Sullivan, récent diplômé en orthodontie de l'Université du Manitoba, recevra une récompense de l'Association américaine des orthodontistes pour son travail de recherche intitulé: *"An Investigation into the Three-Dimensional Force and Moment Characteristics of Selected Low-Modulus Initial Alignment Archwires."*

Le travail du Dr Sullivan faisait partie des exigences qu'il avait à remplir conjointement avec ses études en orthodontie pour obtenir sa maîtrise en sciences à l'Université du Manitoba. Il présentera son travail et recevra sa récompense lors de la prochaine assemblée de l'AAO à Boston (Massachusetts), en mai prochain.

Pour la troisième année consécutive, c'est un étudiant en orthodontie de l'Université du Manitoba qui reçoit cette récompense internationale. Les récipiendaires précédents sont le Dr Elli G. Roehm en 1981 (elle a fait un travail sur le volume de la langue en utilisant une méthode tomographique informatisée) et le Dr Martin Lack en 1980 (il a mis au point une technique pour déterminer simultanément et tridimensionnellement les forces et les moments orthodontiques résultants).

Le Dr Paul Jean a été élu président de l'Association des prothésistes du Canada lors de l'assemblée annuelle tenue à Montréal.

Le président désigné est le Dr Paul Sills et le nouveau vice-président est le Dr Jim Anderson. Le Dr Broch Love sera secrétaire-trésorier.

Ont été élus conseillers les Drs Shauket Chaney, John Blomfield, Bruce Graham et Alex Bowman.

La prochaine assemblée de l'Association des prothésistes du Canada doit avoir lieu à Vancouver, du 23 au 25 septembre 1983. Le président du programme est le Dr D. Donaldson

de la Faculté de dentisterie de l'Université de la Colombie-Britannique.



Le colonel George R. Covey

Le colonel George Ross Covey, MBE, CD, d'Ottawa (Ontario), a été nommé commandant des Services dentaires des Forces armées canadiennes.

Il s'agit d'un titre honoraire conféré à un officier supérieur à la retraite de cette division. En tant que tel, le colonel Covey doit susciter un sentiment d'unité dans toute la Division dentaire et mettre le chef du personnel de la Défense nationale au courant des principales affaires qui concernent la division.

Le colonel Covey a entrepris sa carrière militaire en 1941 en se mettant au service de l'armée canadienne durant la Deuxième Guerre. Celle-ci terminée, il a été muté aux Forces armées régulières et en a fait partie jusqu'à sa retraite en 1973.

En tant qu'officier supérieur, il a commandé 25 services dentaires régionaux canadiens en Corée et 35 à Metz (France). De plus, il a été commandant de l'École dentaire des

Forces armées à Camp Borden (Ontario) et directeur général adjoint des Services dentaires au quartier général de la Défense nationale.

En septembre 1973, il devint directeur du Programme des sciences de santé dentaire au Collège Algonquin à Ottawa.

De 1974 à 1979, le colonel Covey a exercé comme dentiste privé à Ottawa.

L'Association canadienne de normalisation (ACNOR) annonce que de nouvelles normes ont été établies pour les joncteurs de tubes trachéens et les épurateurs de gaz anesthésiques.

La norme Z168.2 ayant trait aux joncteurs de tubes trachéens vise à assurer que les produits des divers fabricants seront interchangeables et fonctionneront de façon efficace avec les tubes trachéens et les autres appareils respiratoires.

La norme Z168.8 indique comment fabriquer les appareils qui recueillent et épurent les gaz et les vapeurs anesthésiques et établit les exigences touchant leur efficacité. De plus, elle définit les critères servant à déterminer si un épurateur est pratique et sûr.

On se souviendra que Santé et Bien-être social Canada (Alerte Instruments médicaux, no 46) recommande l'installation d'épurateurs de gaz anesthésiques dans toutes les salles d'opération dentaires.

Les deux normes en question comprennent des procédures de vérification et la norme Z168.2 est même doublée d'un programme de certification des appareils de l'ACNOR.

On peut obtenir les deux normes dans les centres de l'ACNOR à Toronto, Vancouver, Edmonton, Winnipeg et Montréal. On peut aussi les commander par la poste à l'adresse suivante: Sales Group, Canadian

Standards Association, 178 Rexdale Blvd., Rexdale (Toronto), Ontario, M9R 1R3.

Les prix sont comme suit: la norme Z168.2 — Les joncteurs de tubes trachéens — 15\$ et la norme Z168.8 — Les épurateurs de gaz anesthésiques — 20\$. Pour les frais de poste et de manutention, il faut ajouter 1\$ au Canada et 2,50\$ à l'étranger, y compris les États-Unis.

On exige un chèque pour toute commande de moins de 75\$. On accepte les cartes VISA et MASTERCARD pour les commandes téléphoniques: (416) 744 4044.

♦♦♦♦♦♦♦♦

Lors de son banquet annuel qui a eu lieu à Edmonton en juin dernier, l'Association des anciens étudiants en dentisterie de l'Université de l'Alberta a honoré le Dr Sperry Fraser en lui attribuant une récompense pour ses réalisations exceptionnelles.

Né à Norwood (Ontario) en 1899, le Dr Fraser exerce la dentisterie depuis 51 ans, soit depuis l'obtention de son diplôme à l'Université de l'Alberta en 1930 (diplôme de première catégorie en dentisterie). Plus tard, il obtenait d'autres diplômes du Collège américain des dentistes et du Collège royal des dentistes.

Il est membre originaire de l'Académie canadienne de prosthodontie, ancien président de la Société de prosthodontie de la Côte du Pacifique et de l'Association des anciens élèves en dentisterie de l'Alberta, et professeur émérite de l'Université de l'Alberta.

♦♦♦♦♦♦♦♦

D'après une lettre envoyée récemment par le ministre de la Santé de la Colombie-Britannique, James Nielson, à un conseil municipal de la province, le rétablissement du régime provincial d'assurance dentaire sera une priorité majeure lorsque l'économie le permettra.

Voici un extrait de la lettre de M. Nielson:

"La province, s'est-on rendu compte, ne peut pas, vu le climat économique actuel, maintenir le régime d'assurance dentaire inauguré dans des temps plus prospères. C'est pourquoi j'ai été forcé contre mon gré de suspendre le régime durant la période de restrictions financières que traverse la province. Les clients du ministère des Ressources humaines continueront, par l'intermédiaire de ce ministère, à être protégés pour les soins dentaires qui leur sont nécessaires.

"Les soins dentaires sont un élément important de notre régime médical et c'est à regret que j'ai pris cette mesure. Je vous assure que le gouvernement considérera le rétablissement du régime dentaire comme une priorité majeure quand l'économie sera redressée. J'ai l'intention d'entreprendre une révision complète de notre expérience en matière de régime dentaire et de proposer des changements et des améliorations. Cette révision sera faite par un comité formé de professionnels, de consommateurs et d'agents du gouvernement."

Le Conseil municipal de Fernie (Colombie-Britannique) a demandé au gouvernement de songer à établir des régimes collectifs pour les citoyens âgés.

♦♦♦♦♦♦♦♦

Une dame de Saint-Jean (Québec) a eu l'heureuse idée d'offrir à la Hal Lowe en des brosses à dents au lieu de bonbons. Elle en a distribué six douzaines en 1981 et autant en 1982.

Les enfants ont été ravis de recevoir des brosses à dents, a déclaré Mme Denise Gadbois au Canada français, journal publié à Saint-Jean (article reproduit dans *Dent pour dent*, vol. 8, no 1).

Quant aux parents, ils ont chaleureusement applaudi cette initiative.

Selon Mme Gadbois, il s'agit d'un geste pratique, surtout si on demande aux enfants s'ils possèdent une brosse à dents chez eux. De 40 à 45 pour cent parmi eux n'en ont pas, a-t-elle découvert. Cependant, ils promettent volontiers d'utiliser leur nouvelle brosse à dents dès le soir même.

Grâce à l'aide d'un dentiste, le Dr Gilbert Chaume, Mme Gadbois réussit à obtenir des brosses à dent au prix de gros.

Le 31 octobre prochain, elle se propose d'offrir de la soie dentaire si ce n'est pas trop dispendieux. Sinon, elle offrira encore des brosses à dents. Après tout, conclut-elle, le prix d'une brosse à dents dépasse à peine celui d'une tablette de chocolat.

♦♦♦♦♦♦♦♦

Le Dr Pierre Desautels, professeur à la Faculté de médecine dentaire (Université de Montréal), vient de publier un ouvrage portant sur sa spécialité et intitulé: "Les matériaux dentaires: précis et guide de choix."

En réalité, il s'agit d'une traduction et d'une adaptation d'un ouvrage américain, a précisé le Dr Desautels.

Le travail a été fait à la demande du ministère québécois de l'Éducation parce qu'on trouve peu d'ouvrages pareils en français. C'est l'éditeur qui a sollicité directement l'aide du Dr Desautels.

Il existait un seul autre ouvrage sur les matériaux dentaires en français, a déclaré le Dr Desautels, et il a été publié il y a dix ans. Plus à jour, le nouvel ouvrage est "un bon texte que peuvent utiliser les praticiens, les hygiénistes et les étudiants."

(Le Dr Desautels est le rédacteur scientifique français du Journal de l'ADC.)

Human Disease for Dental Students

R.N. Baird, R.E. Barry, J.P. Fletcher, K.B. Linton, P.E. Salmon and A.J.C. Tudway (Ed.)

*Pitman Medical Limited
London, England, 1981
344 pages, \$31.00 (CAN, softbound)*

This useful book represents concise notes based on an integrated course on human disease given at Bristol Dental School. Its format is similar to the type of outline that students like to have given out in class, but is in a more polished form than most such handouts. The Bristol integrated course replaces separate courses in pathology, microbiology, medicine and surgery, but does not cover oral pathology and oral medicine, which are taught later in the curriculum.

At the beginning of the book, there are separate chapters on the principles of pathology, basic microbiology and introductory immunology. These are followed by discussions of a wide range of systemic diseases, always in note form. Some material is presented on gynecology, plastic surgery, radiation oncology, otolaryngology and psychiatry. Even various methods of birth control are discussed briefly.

The concept behind the course, and therefore this book, is to provide basic information concerning human disease so that the dentist will have a broad, if relatively superficial, background in this area and, secondly, to point out the relevance of certain diseases to dental practice. The latter theme continues throughout the book, but there is also a section at the end that addresses clinical problems of practical importance, such as abnormal bleeding from a tooth socket, collapse in the dental office, the prevention of endocarditis and viral hepatitis.

The value of this book is that it gives students a guide as to what they should know about various topics and it should therefore prove useful as a review aid at examination time. It also serves as a concise reference for the student or practitioner who has forgotten a detail. If either is unable to recall the meaning of lymphocyte

transformation, L forms of bacteria or schizophrenia, he will find a brief note on these subjects here.

I was impressed by the general attention to detail. Modern concepts of leukoplakia and erythroplakia are discussed. Leukoplakia does not receive its former undue emphasis as a pre-malignant lesion and the danger of erythroplakia is stressed. The concept of a granuloma is discussed in relation to such disorders as tuberculosis and sarcoidosis. However, the point is made that the term, granuloma, is also used in a completely different sense as in periapical granulomas.

There are a few areas deserving criticism but most are minor. On page 44, the importance of plaque in the etiology of periodontal disease is noted, but there is no mention of its role in dental caries. This omission is corrected on page 206. The discussion of lymphomas is inadequate — the reader is advised that there are different types but the only one mentioned is Hodgkin's disease. The statement that chronic cases of lichen planus may become malignant is an overly simplistic comment concerning a rare possibility that is still an open question. To dismiss the so-called temporomandibular joint dysfunction

syndrome as "cause unknown" again far too simplistic.

The single most important error found is the recommendation of the drug Metronidazole for genital herpes (page 279). This is a potentially dangerous drug, used only for serious anaerobic infections where the benefit is considered to outweigh the possible risk. Presumably, the author meant Methisazone which has been approved in Great Britain for the treatment of herpetic infections. Again on page 279, the treatment advocated for genital candidiasis is more appropriate for genital herpes. Idoxuridine is an antiviral agent, not an antimycotic. Confusion reigns on this page!

One area that is not useful to North American readers is the occasional reference to the health system in the United Kingdom. The administrative structure of the NHS and certain aspects of the Mental Health Act (1959) are summarized.

The book is adequately indexed. In my opinion, it should be valuable as used as intended. It is **not** designed as a substitute for more elaborate texts.

This book was reviewed by David G. Gardner, Professor and Chairman, Division of Oral Pathology, The University of Western Ontario, London, Ontario.

Atlas of Operative Dentistry

William W. Howard
Richard C. Moller
Third Edition

*C.V. Mosby
St. Louis, Missouri, 1981
\$25 (approx.), 292 pages*

Faculty responsible for teaching operative dentistry, and undergraduate dental students, are fortunate to have either, new editions of several standard operative textbooks or, new textbooks that have been published in 1981-82.

The original and second editions of the operative text by W.A. Howard has been appreciated by students and faculty over the last decade for its concise and grammatical excellence when introducing students to this subject in their early years.

What the first two hard cover editions lacked was sufficient clinically related material to comfortably guide students in their early clinical experience with patients. The third soft cover edition in

cludes material to rectify this shortcoming, with the addition of R.C. Moller as second author.

The excellence and clarity of the art work in the previous editions has been included and many additional diagrams and photographs of clinical cases or procedures on the dentoform have been added to broaden the usefulness of this text for dental students at all levels; and provides a good reference source or update for general practitioners.

Moisture control for restorative procedures has been extended and includes practical operator/patient positioning, photos and comments. Dental caries and its management with the additional clinical photos and diagrams that were needed are well presented.

Amalgam, as one of our key direct restorative materials, is pre-

sented in a short separate chapter; that complements the intensive coverage found in several up to date excellent dental materials texts readily available.

Chapters on cavity preparation for amalgam, insertion and finishing have added key visual aids to enhance already excellent sections of this text. Utilization of retentive pins, complemented by more detail and the conversion to a cast restoration, provides another comprehensive aspect to this essential area of teaching and practice.

Cast gold restorations, temporary restorations and cementation are presented in a much more comprehensive manner in three separate chapters. The information on direct gold procedures retains its classical and practical excellence and enables a secure

grasp of the fundamentals and details required for tooth restoration. The same can be said for the chapter on porcelain inlays.

The coverage of restorative resins has been much improved and the added visual and explanatory material provides the understanding needed, particularly for the conservative use of composite resins.

No single textbook can cover all facets of operative dentistry or their daily application to the variety of restorative problems requiring our attention. This publication however, remains an outstanding student reference text with the basic concepts presented in a clearly understood format.

This book was reviewed by E.R. Ambrose, DDS, Dean, and Professor of Restorative Dentistry, College of Dentistry, University of Saskatchewan.

Oral Surgery in Dental Practice

Eberhard Kruger
Philip Worthington

Quintessence Publishing Co.
Chicago, Illinois,
\$68.00, 392 pages

For a general practitioner who likes to perform a number of procedures in the field of minor oral surgery, this book could be a very useful reference. The procedures are summarized very well, and a clinician can proceed with a particular procedure by reading the chapters. The drawings and pictures very appropriately explain many of the procedures. Because it tries to cover so many facets of oral surgery, this book, therefore, lacks depth. For this reason, it will not make a good textbook for undergraduate students, where depth and thoroughness is very essential.

The chapter on basic surgical technique is well written, especially when dealing with hemostasis and suturing techniques. Although the chapter on tooth ex-

traction is very basic, complications during and after tooth extractions are discussed well and to the point without being redundant.

A good introduction to dental implants is done in this book, giving examples of many difficult types of implants. However, this is such a controversial subject, that this chapter seems to be out of place in this book. A budding and impatient clinician may very well start doing implant procedures after reading this chapter. Although the author does discuss some statistics of success and failure of a few types of implants, it does not talk about the experimental nature of these implants (which most of them are at the present time). Let me quote from this chapter, "No single method suffices to manage every case, and several techniques should be mastered so that any given situation can be managed adequately". This statement may lead many clinicians to believe that many of these implants are successful and

routinely utilized — this, of course is not true.

In North America, very few oral surgery textbooks cover perio surgery, which is present in this book. Small chapters on local anesthesia and general anesthesia make them look out of place as justice cannot be done to those topics in such short chapters. They could have easily been left out and more emphasis placed on some basic topics.

However, there are some excellent chapters. The illustrations are presented very well, and the technique is well described, but unfortunately too much material has been jammed into a very small book. If it is written for reference purposes, the authors have done a very good job. But if it is meant for a textbook, it has a lot to be desired.

This book was reviewed by B.K. Arora, Professor and Chairman, Oral and Maxillofacial Surgery, University of Alberta.

Facial artery calcification: a case report of its clinical significance

Dale A. Miles, DDS
Robert M. Craig, DDS
Robert P. Langlais, DDS, MS
William C. Wadsworth, DDS
San Antonio, Texas

ABSTRACT

Patients with compromised vascularity secondary to diabetes or hemodialysis therapy may present with calcification of their arteries. This article demonstrates the panoramic appearance of this degenerative process, and suggests the value of such a radiograph in estimating the rate of progression of the disease.

We have previously outlined the incidence and appearance of facial artery calcification in panoramic radiographs.¹ Our findings suggest that atherosclerotic changes were detectable in patients with diabetes or chronic renal failure requiring dialysis. Since that report, routine panoramic examination of patients presenting to the Dental Service of the Audie L. Murphy Memorial Veterans Hospital has revealed three additional cases, one of which is reported here.

Radiographs, taken several months apart, of a diabetic patient, reveal the rapid onset of peripheral vascular disease subsequent to renal dialysis therapy.

Atherosclerotic changes are well documented in diabetic patients,^{2,3} renal dialysis patients,⁴⁻⁶ and renal homotransplant patients as a consequence of secondary hyperparathyroidism.^{7,8} Soft tissue calcifications are detectable in radiographs of the hands,⁷ feet,⁸ and chest.⁶ In this case, these changes were more readily detectable on the panoramic films as compared to the sequential hand films (Figs 1-3).

CASE REPORT

A 54-year-old Latin-American male was last admitted to the Audie L. Murphy Memorial Veterans Hospital

SOMMAIRE

Les personnes dont le système vasculaire est affecté à la suite de troubles diabétiques ou de traitements par hémodialyse peuvent avoir des problèmes de calcification artérielle. Cet article a pour but de démontrer ce processus dégénératif au moyen d'orthopantomogrammes, indiquant combien de telles radiographies peuvent être précieuses pour juger du procès de la maladie.

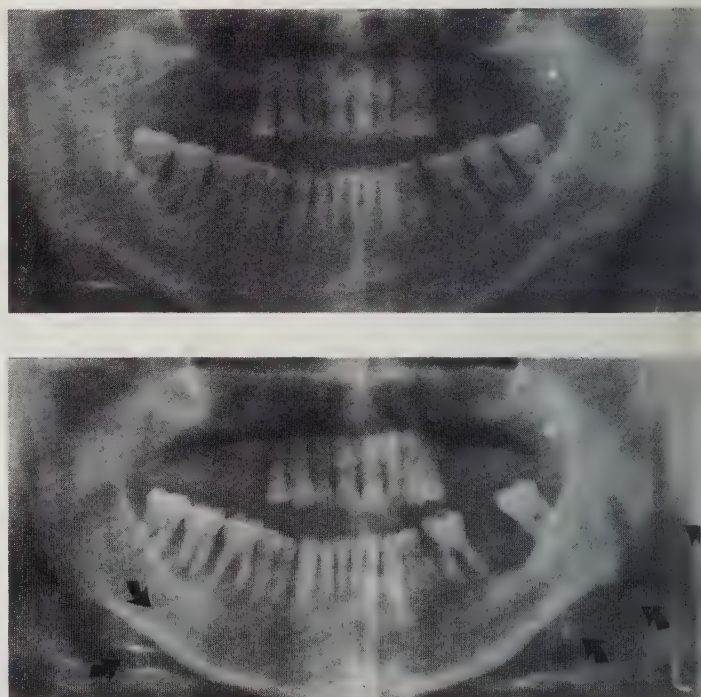


Fig. 1. (Top), (May, 1981). Patient presents with pain in lower left quadrant. (Bottom), (March 1982). Patient presents with pain in lower right quadrant. Note bilateral calcified facial, and external carotid arteries (arrows)



Fig. 2. (March 1981) Vascular calcifications begin to appear in the wrist (arrows).



Fig. 3. (December 1981). Arterial calcifications are visible in the soft tissue between metacarpals (arrows).

On March 19, 1982, for treatment of ulcers and gangrene of the feet, secondary to vascular problems associated with diabetes mellitus. The patient had an eight-year history of hypertension, diabetes and chronic renal failure requiring dialysis treatment three times per week since 1975. His diabetes was controlled by oral hypoglycemics. An internal capsule CVA in 1981 resulted in residual right side hemiparesis. He had a long history of alcohol abuse and cigarette usage. Medications included calcium car-

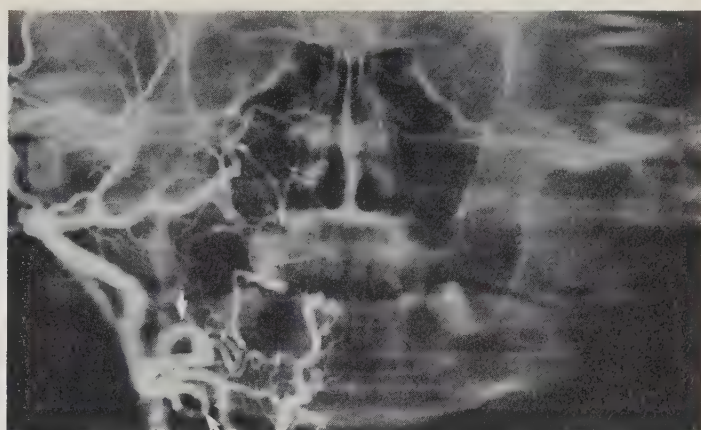


Fig. 4. Arteriogram of vessels of the facial area. Note the tortuous nature of facial artery (arrows). (Reprinted by permission from Mattila, K. et al. *Dentomaxillofacial Radiology* 10:53, 1981.

bonate, Orinase, ferrous sulphate, Indocin, Nitropaste, Hytakerol and Alucaps.

The Dental Service saw the patient on May 28, 1981, for the extraction of the lower left second permanent molar for the relief of pain. Extraction of the lower right second permanent molar was also recommended, but the patient declined treatment.

In March, 1982 the patient again presented with pain in the lower right quadrant from the lower right second permanent molar. A new panoramic radiograph was taken and an appointment made for extraction. At this time, the prominent calcified facial artery was observed on the radiograph. The patient failed to report for the next dental appointment, and shortly thereafter was admitted to the Orthopedic Service for bilateral below knee amputations resulting from the compromised vascularity of his lower extremities. He had frequent episodes of volume overload despite rigorous dialysis therapy and expired on March 23, 1982, from chronic renal failure.

DISCUSSION

Limb amputation due to compromised vascularity is a dreaded complication of diabetes.⁹ When a predisposing condition such as renal failure is superimposed, the patient's prognosis is grim. Some authors have even advocated sub-total parathyroidectomy to reverse hypercalcemia, progressive vascular calcifications, necrosis, and ulcerations subsequent to renal transplantation.⁸ Bagdade⁴ reported that the incidence of accelerated atherosclerosis was "many times higher" for patients on hemodialysis than normal or hypertensive populations. Furthermore, he states that the vascular complications "are comparable to those of patients with Type II hyperlipidemia — a familial disorder characterized by rapidly progressive atherosclerotic disease and premature death."

In support of this observation, Meema et al⁵ found the progression of vascular calcification to be significantly different between non-dialyzed patients and the combined group of peritoneally dialyzed, hemodialyzed and renal transplant patients.

Consequently, early detection of peripheral atherosclerotic change is mandatory in diabetics with hyperparathyroidism secondary to renal dialysis or transplantation, to improve the prognosis of these patients.^{6,7,8} Indeed, Mattila et al¹⁰ are currently using panoramic angiography for the detection of vessel calcification in animals and on human cadavers (Fig 4).

SUMMARY

A case report in which progressive atherosclerotic change was visualized on panoramic radiographs is presented. The value of this radiographic examination for patients with diabetes, atherosclerosis and hyperparathyroidism secondary to hemodialysis warrants further investigations.

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Kyste odontogène épithélial calcifiant — rapport de cas

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Un patient mâle de race blanche de 56 ans, marin, se présente d'urgence à la clinique de chirurgie buccale et maxillo-faciale de l'Hôpital de l'Enfant-Jésus le 15 janvier 1981, envoyé par son dentiste avec un diagnostic provisoire d'infection localisée au maxillaire supérieur gauche.

Sur son questionnaire, le patient relate une histoire de traumatisme facial suite à une chute banale survenue en septembre 1979, pour lequel il n'a pas vu le médecin. Suite à cet incident, une nouvelle prothèse fut fabriquée pour le maxillaire supérieur. Peu de temps après, il a remarqué une augmentation de volume graduelle au niveau de l'arcade du maxillaire supérieur gauche. Il n'y a jamais eu de douleur sauf récemment et seulement lors du port de sa prothèse dont la rétention n'est plus adéquate. Il consulte d'ailleurs son dentiste pour cette dernière raison en soulignant qu'il lui est devenu quasi impossible de s'alimenter convenablement.

Les antécédents médicaux et chirurgicaux sont non contributaires. Le patient affirme n'avoir jamais eu de chirurgie buccale autre que l'extraction simple de ses dents qui remonte à 1962 et qui a été suivie par la mise en bouche de prothèses immédiates. Il fait part toutefois d'un alcoolisme et d'un tabagisme importants depuis plusieurs années. Il ajoute enfin ne prendre qu'occasionnellement des médicaments pour l'arthrite dont il ne peut préciser la nature.

ASPECT CLINIQUE

Le patient est obèse, paraissant passablement plus vieux que son âge. Il est non souffrant mais anxieux. La température buccale est normale.

À l'examen de la cavité buccale, les deux maxillaires sont complètement édentés. L'atrophie est peu marquée. On note la présence d'une masse fluctuante sous-muqueuse au maxillaire supérieur gauche, non douloureuse à la palpation, couvrant la région des dents 22 à 25 et débordant dans le sulcus buccal ainsi que du côté palatin. La crête alvéolaire est considérablement soulevée. Il n'y a aucune évidence d'ulcération ou d'écoulement. La muqueuse gin-

Here is an unusual case of calcifying epithelial odontogenic cyst.

On January 15, 1981, a patient — male, Caucasian, age 56, sailor — presents himself at the Oral and Maxillofacial Surgery Clinic of l'Enfant-Jésus Hospital on an emergency basis. He is referred by his dentist, the provisional diagnostic being a localised infection of the upper left maxilla.

On his questionnaire, the patient reports a facial trauma following a simple fall in September 1979 for which he did not see a doctor. Consequently, he had a new denture made for his upper maxilla. Shortly after, he noticed a progressive increase in volume about level with the upper left maxillary arch. He experienced no pain except recently and only when wearing his denture which no longer fit properly. It was then that he consulted his dentist, complaining that it had become almost impossible for him to eat properly.

Medical and surgical background is irrelevant. The patient reports having had no oral surgery before, except simple extraction of his teeth in 1962 after which he immediately started to wear dentures. However, he admits that he has been drinking and smoking quite heavily for many years. He also says that he takes drugs for arthritis only occasionally but is unable to identify the drugs.

givale est rougeâtre mais ne diffère pas de celle se trouvant du côté opposé. La lèvre supérieure gauche est légèrement proéminente du côté externe mais sa texture est normale.

ASPECT RADIOLOGIQUE

Le film panoramique démontre deux maxillaires complètement édentés. Aucune racine résiduelle, dent incluse ou corps étranger ne sont mis en évidence. On remarque une zone radiotranslucide englobant la crête alvéolaire antérieure du maxillaire supérieur gauche mais l'image est floue et de peu de valeur diagnostique. Il y a de plus apparence d'une zone plus radio-opaque, bourgeonnante, envahissant le sinus maxillaire gauche par la base et ressemblant à un kyste de rétention de la muqueuse sinusale.



Figure 1 Le film occlusal met en évidence la destruction importante de l'os alvéolaire. Les rebords de la lésion sont mal définis et irréguliers. De fines travées d'allure calcifiées sont diffuses à l'intérieur de la lésion.

Le film occlusal (**figure 1**) par contre démontre une destruction complète de l'os alvéolaire et basal gauche de la région des dents 22 à 25. Cette destruction s'étend aussi à une partie de l'os palatin et semble envahir la fosse nasale gauche. Les rebords de la lésion sont mal définis et irréguliers. L'os cortical est absent mais on remarque la présence de fines travées d'aspect calcifié, diffuses à l'intérieur de la lésion.

DIAGNOSTIC DIFFÉRENTIEL

Le diagnostic différentiel, basé sur la clinique et l'aspect radiologique, doit inclure les lésions suivantes¹:

Kyste primordial (kératokyste) primaire vs récidivant

Ce kyste se rencontre chez l'adulte ou l'enfant et est classiquement localisé à la mandibule dans la région des troisièmes molaires et pré-molaires; il est cependant décrit à différents endroits des arcades dentaires. Il est généralement bien délimité, de croissance lente, asymptomatique, mais peut devenir assez volumineux. Il prend la place d'une dent normale ou surnuméraire non formée. Dans le cas qui nous intéresse, cette entité doit être envisagée malgré l'âge. Une récurrence est par contre peu probable, le patient soutenant qu'il n'a jamais eu d'opération buccale comme telle.

Kyste résiduel

Il se rencontre à tout âge dans un espace édenté, suite à l'extraction plus ou moins récente d'une ou plusieurs dents qui présentaient une lésion apicale. L'évolution est plutôt lente et rarement symptomatique. Nous devons retenir que l'extraction des dents chez ce patient a été pratiquée environ 20 ans avant l'apparition des symptômes, ce qui pourrait rendre vraisemblable un tel diagnostic.

Granulome central à cellules géantes

Cette pathologie se retrouve le plus souvent suite à une histoire de traumatisme et peut présenter une expansion considérable avec destruction du cortex. L'histoire clinique et l'aspect radiologique sont donc compatibles avec cette lésion. Par contre, elle est plus fréquente à la mandibule et surtout chez les femmes de moins de 20 ans.

Améloblastome

Découvert surtout après l'âge de 30 ans, l'améloblastome a un aspect radiotransparent, uni ou multilobulaire, plus ou moins bien défini, avec ou sans dent associée. La croissance est lente et peut produire une destruction très importante. Il est plus fréquent de le rencontrer à la mandibule, au niveau des 3^e molaires et de la branche montante, mais plusieurs cas ont été rapportés au maxillaire supérieur. Ce diagnostic représente donc une forte possibilité.

Kyste odontogène épithélial calcifiant

Il peut ressembler à l'améloblastome au point de vue radiologique. Il peut être associé à une dent incluse ou un odontome mais il arrive qu'on retrouve quelques calcifications diffuses à l'intérieur de la lésion. On le rencontre surtout chez les patients de moins de 40 ans, sans prédisposition particulière pour l'un ou l'autre des maxillaires. L'évolution est habituellement lente et asymptomatique.

Tumeur odontogène adénomatoïde

Le site de prédilection de cette tumeur est au niveau de la canine du maxillaire supérieur, d'où l'importance de l'inclure comme possibilité. La femme est le plus souvent atteinte surtout entre 10 et 20 ans et l'âge le plus fréquent se situe dans la 2^e décennie. Elle est généralement associée à une dent incluse. L'évolution est lente, asymptomatique et le volume peut devenir considérable. Il est cependant rare que le cortex soit perforé, ce qui milite ici contre cette hypothèse.

Tumeur odontogène épithéliale calcifiante (Pindborg)

Cette tumeur est rare. Elle se rencontre indifféremment chez les deux sexes et l'âge est vers de 40 ans. La mandibule est atteinte dans 70 pour cent des cas, surtout dans la région pré-molaire et molaire. Elle est généralement associée à une dent incluse. L'aspect radiologique ressemble à celui du kyste odontogène épithélial calcifiant; c'est pourquoi elle doit faire partie du diagnostic différentiel, même si la confirmation d'un tel diagnostic serait exceptionnelle.

ASPECT CHIRURGICAL

La possibilité d'une infection étant éliminée par l'absence d'hyperthermie et l'évolution clinique, en suspectant une lésion kystique ou tumorale, nous envisageons tout au moins le prélèvement d'une biopsie. L'anesthésie locale est complétée à l'aide de 8ml de Xylocaine 2 pour cent avec épinéphrine 1:100,000 en infiltration autour de la lésion ainsi qu'au niveau du canal palatin antérieur jusqu'à la deuxième division. Dix ml d'un liquide normo-visqueux, sanguinolent, sont ensuite aspirés de l'intérieur de la masse.

Une incision de la muqueuse gingivale est pratiquée au sommet de la crête alvéolaire, s'étendant de la région 21 à 26. Un lambeau est soulevé du côté buccal après avoir trouvé un plan de clivage relativement bien délimité, ce qui permet de disséquer une membrane épaisse, non friable, de coloration brunâtre et d'apparence kystique qui tapisse une cavité osseuse importante englobant tout le

processus alvéolaire de 22 à 25 et se rendant jusqu'à la fosse nasale gauche de même qu'au sinus maxillaire gauche dont la base est repoussée vers le haut en forme de dôme. Une portion des muqueuses nasale et sinusale est accolée à cette membrane, mais la dissection permet de les conserver intactes. La lésion est enlevée en entier. Outre le liquide aspiré, la cavité d'allure kystique est vide.

Après irrigation du site chirurgical, la fermeture est accomplie à l'aide d'une suture au chromic 3-0 en surjet. Les pertes sanguines sont évaluées à environ 100 ml. L'intervention a été bien tolérée par le patient. Un contrôle post-opératoire effectué une semaine plus tard a démontré une excellente évolution de la guérison.

ASPECT HISTOPATHOLOGIQUE

Le revêtement épithélial a une couche basale relativement proéminente, d'aspect pseudo-améloblastique. Au-dessus de cette couche basale, l'épithélium est lâche, rappelant vaguement le réticulum étoilé, et les cellules à la portion superficielle sont de type fantôme. La paroi conjonctive sous-jacente est moyennement dense et présente un infiltrat inflammatoire surtout chronique lymphoplasmocytaire focal. Il y a également dans cette paroi conjonctive quelques traînées d'épithélium odontogène. Quelques fragments de muqueuse gingivale accompagnant le prélèvement principal présentent une inflammation chronique non spécifique.

DIAGNOSTIC FINAL

Kyste odontogène épithélial calcifiant.

DISCUSSION

Cette lésion bénigne, incluse dans la classification de l'OMS des néoformations et autres tumeurs en rapport avec l'organe dentaire², possède plusieurs similitudes histologiques avec l'améloblastome. Elle a été reconnue par Gorlin en 1962 comme une pathologie bien distincte. Plusieurs cas ont été rapportés depuis et les quelques cas oubliés avant cette date ont été identifiés comme étant des améloblastomes atypiques ou des types d'odontome. La terminologie proposée par Gorlin n'est toutefois pas adéquate car la lésion ne se présente pas toujours sous la forme d'un kyste et il est facile de la confondre au point de vue appellation avec la tumeur odontogène épithéliale calcifiante qui est une entité bien différente³.

Le kyste odontogène épithélial calcifiant, le plus souvent intra-osseux, se présente sous forme d'une expansion graduelle et non douloureuse^{1,3,4,5}. Plus rarement, il peut être extra-osseux et provient alors de la muqueuse gingivale³. En ce qui concerne le cas rapporté ci-haut, l'évolution de l'expansion nous apparaît à première vue plus rapide que ce qui est généralement décrit. L'explication la plus plausible serait la présence d'une lésion intra-osseuse de longue date qui aurait progressé lentement, tout d'abord en direction de la fosse nasale et du sinus maxillaire, de façon asymptomatique. Lors du traumatisme fa-

cial survenu en 1979, la possibilité d'une fracture mineure au niveau de la crête alvéolaire ne peut être écartée, ce qui aurait dès lors favorisé une accélération de la progression en direction intra-orale et une apparition des symptômes.

Des soixante-dix (70) cas révisés par Freedman, Lumerman et Gee⁶, dont la plupart des patients avaient moins de 40 ans, la lésion se rencontre plus fréquemment chez la femme avant 41 ans mais est plus fréquente chez l'homme après cet âge. Ces chercheurs ont aussi noté qu'avant l'âge de 41 ans, elle prévalait surtout au maxillaire supérieur (70 pour cent) alors qu'après 41 ans, elle était plus fréquente à la mandibule (80 pour cent). 75 pour cent des lésions étaient situées antérieurement à la première molaire.

Radiologiquement, la lésion intra-osseuse a un aspect radiotransparent, uni ou multi-loculaire, avec ou sans calcification. Il peut y avoir une dent incluse ou un odontome associé. La démarcation est habituellement bien définie³.

À l'histopathologie, l'épithélium ressemble à celui de l'améloblastome mais il possède une caractéristique: la présence de cellules fantômes^{1,2,3,4,5}. Ce sont des cellules épithéliales plus grosses, qui deviennent éosinophiles et qui ont produit un type particulier de kératinisation. Des masses de kératine ont ainsi accumulées à l'intérieur des cellules dont le noyau devient difficilement discernable (**figure 2**). Ce sont ces cellules qui, à la longue, peuvent se calcifier. Même si elles sont un caractère distinctif du kyste odontogène épithélial calcifiant, elles n'en sont pas pathognomoniques puisqu'elles peuvent être observées aussi dans les odontomes, les améloblastomes et les fibromes améloblastiques³.

Même si ce genre particulier de kyste est classifié par l'OMS sous la rubrique néoformation et autres tumeurs, son comportement clinique n'en demeure pas moins semblable aux autres kystes odontogènes intra-osseux^{1,4}. Shafer l'inclut d'ailleurs dans la classification des kystes odontogènes⁴. En ce qui regarde la fréquence de cette lésion, 370 cas de kystes odontogènes intra-osseux furent

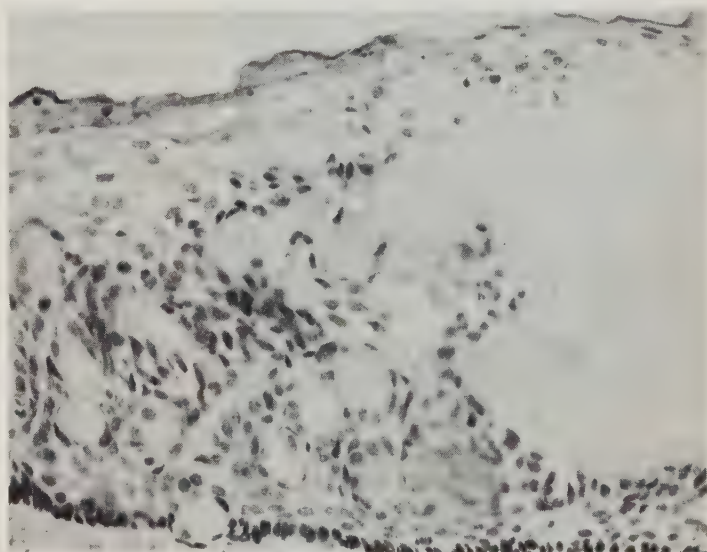


Figure 2 Histologie (x950). Couche basale proéminente et cellules fantômes.

diagnostiqués à l'Hôpital de l'Enfant-Jésus de 1973 à 1981. Cinq (5) de ces cas ont été identifiés comme étant des kystes odontogènes épithéliaux calcifiants, ce qui représente pour notre milieu une incidence d'environ 1.3 pour cent; cette figure se rapproche du chiffre de 2 pour cent rapporté dans l'étude de Altini et Farman⁷.

Le traitement consiste en l'énucléation entière de la lésion. Les récives sont exceptionnelles mais Slootweg et Koole ont rapporté un cas en 1980 chez un patient de 78 ans dont l'opération avait eu lieu sept ans auparavant⁸. Deux autres cas de récive avaient été préalablement rapportés dans la littérature: un par Gorlin en 1962 et l'autre par Swinson en 1976⁸. Shafer mentionne finalement que la transformation en carcinome, quoique très rare, peut survenir⁴.

RÉSUMÉ

Un cas de kyste odontogène épithélial calcifiant a été rapporté. Les aspects radiologique et histopathologique concordent avec le diagnostic. Toutefois, la localisation de la lésion, compte tenu de l'âge du patient, ainsi que l'évolution relativement rapide suite à une histoire de traumatisme facial, différent quelque peu des cas déjà rapportés dans la littérature.

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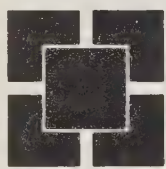
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Indications and Clinical Uses: Motrin (ibuprofen) is indicated for the treatment of rheumatoid arthritis and osteoarthritis. Motrin is also indicated for the relief of mild to moderate pain accompanied by inflammation in conditions such as musculo-skeletal trauma and post-dental extraction. Motrin is also indicated for the relief of pain associated with dysmenorrhea.

Contraindications: Motrin (ibuprofen) should not be used in patients who have previously exhibited hypersensitivity to it, or in individuals with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to acetylsalicylic acid or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Motrin should not be used during pregnancy, in nursing mothers or in pediatric patients because its safety under these conditions has not been established.

Warnings: Anaphylactoid reactions have occurred in patients with known A.S.A. hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported in patients receiving Motrin (ibuprofen). Peptic ulceration, perforation, or severe gastrointestinal bleeding can have a fatal outcome, and although few such reports have been received with Motrin, a cause and effect relationship has not been established. Motrin should be given under close supervision to patients with a history of upper gastro-intestinal tract disease.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in colour vision have been reported. If a patient develops such complaints while receiving Motrin (ibuprofen), the drug should be discontinued and the patient should have an ophthalmologic examination. Fluid retention and edema have been reported in association with Motrin; therefore, the drug should be used with caution in patients with a history of cardiac decompensation or renal disease.

Motrin, like other nonsteroidal anti-inflammatory agents, can inhibit platelet aggregation but the effect is quantitatively less and of shorter duration than that seen with acetylsalicylic acid. Motrin has been shown to prolong bleeding time (but within the normal range) in normal subjects. Because this prolonged bleeding effect may be exaggerated in patients with underlying hemostatic defects, Motrin should be used with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients on Motrin should be cautioned to report to their physicians signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

When Motrin is added to the treatment program of patients who have been on prolonged corticosteroid therapy, and it is decided to discontinue this therapy, the corticosteroid should be tapered slowly to avoid exacerbation of disease or adrenal insufficiency.

Aseptic meningitis has been reported in connection with Motrin therapy in patients with systemic lupus erythematosus. Such patients may also develop hypersensitivity reactions to Motrin such as fever, rash or abnormal liver function more often than those with other disorders. Caution should therefore be exercised when considering Motrin therapy for patients with systemic lupus erythematosus.

Drug Interactions

Coumarin-type anticoagulants: Several short-term controlled studies failed to show that Motrin significantly affected prothrombin times or a variety of other clotting factors when administered to individuals on coumarin-type anticoagulants. However, because bleeding has been reported when Motrin and other nonsteroidal anti-inflammatory agents have been administered to patients on coumarin-type anticoagulants, the physician should be cautious when administering Motrin to patients on anticoagulants.

A.S.A.: Animal studies show that A.S.A. given with nonsteroidal anti-inflammatory agents including Motrin yields a net decrease in anti-inflammatory activity with lowered blood levels of the non-A.S.A. drug. Single dose bioavailability studies in normal volunteers have failed to show an effect of A.S.A. on Motrin blood levels. Correlative clinical studies have not been done.

Adverse Reactions: The following adverse reactions have been noted in patients treated with Motrin (ibuprofen).

Note: Reactions listed below under Causal Relationship Unknown are those which occurred under circumstances where a causal relationship could not be established. However, in these rarely reported events, the possibility of a relationship to Motrin cannot be excluded.

Gastrointestinal: The adverse reactions most frequently seen with Motrin therapy involve the gastrointestinal system.

Incidence 3 to 9%: nausea, epigastric pain, heartburn

Incidence 1 to 3%: diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the gastrointestinal tract (bloating or flatulence).

Incidence less than 1%: gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, hepatitis, jaundice, abnormal liver function (SGOT, serum bilirubin and alkaline phosphatase).

Central Nervous System

Incidence 3 to 9%: dizziness

Incidence 1 to 3%: headache, nervousness

Incidence less than 1%: depression, insomnia

Causal relationship unknown: paresthesias, hallucinations, dream abnormalities

Dermatologic

Incidence 3 to 9%: rash (including maculopapular type)

Incidence 1 to 3%: pruritus

Incidence less than 1%: vesiculobullous eruptions, urticaria, erythema multiforme

Causal relationship unknown: alopecia, Stevens-Johnson syndrome

Special Senses

Incidence 1 to 3%: tinnitus

Incidence less than 1%: amblyopia (blurred and/or diminished vision, scotomata and/or changes in colour vision). Any patient with eye complaints during Motrin therapy should have an ophthalmological examination (see PRECAUTIONS).

Causal relationship unknown: conjunctivitis, diplopia, optic neuritis

Metabolic

Incidence 1 to 3%: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Hematologic

Incidence less than 1%: leukopenia and decreases in hemoglobin and hematocrit

Causal relationship unknown: hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes (e.g. purpura, epistaxis, hematuria, menorrhagia)

Cardiovascular

Incidence less than 1%: congestive heart failure in patients with marginal cardiac function, elevated blood pressure

Causal relationship unknown: arrhythmias (sinus tachycardia, sinus bradycardia, palpitations)

Allergic

Incidence less than 1%: anaphylaxis (see CONTRAINDICATIONS)

Causal relationship unknown: fever, serum sickness, lupus erythematosus syndrome

Endocrine

Causal relationship unknown: gynecomastia, hypoglycemic reaction

Renal

Causal relationship unknown: decreased creatinine clearance, polyuria, azotemia

Symptoms and Treatment of Overdosage: A nineteen month old child weighing 12 kg ingested from 2800 to 4000 mg of Motrin (ibuprofen) and presented with apnea, cyanosis and responded only to painful stimuli. Oxygen and parenteral fluids were given and at 12 hours she appeared completely recovered. Two other children (10 kg each) ingested 1200 mg of Motrin each and there were no signs of acute intoxication or late sequelae. A 19 year old male who had ingested 8000 mg of Motrin reported dizziness, and nystagmus was noted. He recovered with no reported sequelae after parenteral hydration and three days' bed rest.

In cases of acute overdosage, the stomach should be emptied by vomiting or lavage, though little drug will likely be recovered if more than an hour has elapsed since ingestion. Because the drug is acidic and is excreted in the urine, it is theoretically beneficial to administer alkali and induce diuresis.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis

The initial daily dosage in adults is 1200 mg divided into 3 or 4 equal doses. Depending on the therapeutic response, the dose may be adjusted downward or upward. The daily dosage should not exceed 2400 mg.

Maintenance therapy, once maximum response is obtained, will range from 800 to 1200 mg per day.

Mild to moderate pain accompanied with inflammation, dysmenorrhea: 400 mg repeated as required every 4 to 6 hours. The daily dosage should not exceed 2400 mg.

Children: Due to the lack of clinical experience, ibuprofen is not indicated for use in children under 12 years of age.

Supplied: 200 mg (yellow), 300 mg (white), 400 mg (orange) sugar-coated tablets and 600 mg (peach) film-coated tablets in bottles of 100 and 1000.

Product monograph available on request. CE 1542 IC

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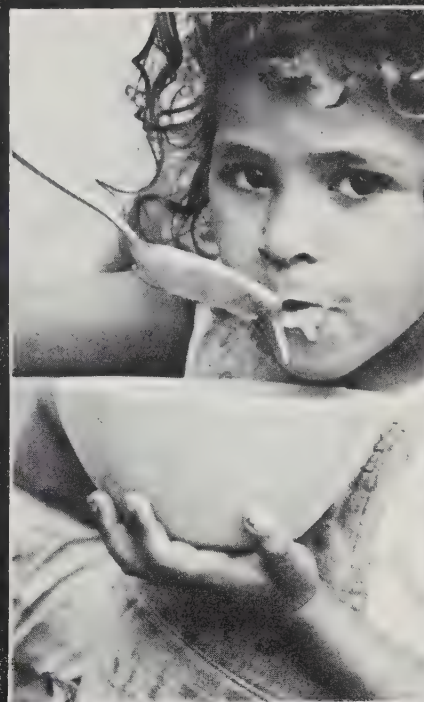
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Offices and Practices

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BRITISH COLUMBIA — Fraser Valley. Part-time associateship with positive view to partnership. Reply in writing to CDA Box #2150

BRITISH COLUMBIA — Gold River. High gross, high potential practice for sale. Modern four operator office (three operatories equipped). This practice serves a population of over 4,000. Originally established as a satellite practice. Contact: Dr. S. Miller, 500 Nimpkish Drive, P.O. Box 910, Gold River, B.C. V0P 1G0 or phone: (604) 283-7422.

BRITISH COLUMBIA — Nelson — Diversified family practice with preventive wholistic approach in small University town amid beautiful mountain lake scenery. Emphasis on relaxed informal atmosphere in handcrafted artistically designed modern office of 1200 sq. ft. Good income with moderate overhead. Excellent opportunity for caring individual to take over in Spring 1983. For further information and reasonable terms write CDA Box #2145.

BRITISH COLUMBIA — Greater Vancouver. Two new and spacious attractive practices for sale (shared in one office) in White Rock, 30 minutes from downtown Vancouver. High gross, low overhead, modern 5 operator (3 fully equipped), full lab, staff room, private office, panelipse, etc. Can be purchased separately or combined. Excellent opportunity for one or two dentists in an area with great growth potential. Only 15 months old — dentists returning to school. For details contact: Oceanside Dental Clinic, 201-13761 16th Ave. South Surrey B.C. V4N 1N2, 604-531-5222, Dr. Tom Weir, Dr. Ken Blankstein.

ALBERTA — Pincher Creek. Practice for sale. Owner wishes to return to school. Opportunity for one or two dentists. Any combination of practice, building, equipment etc. offered. Very reasonable terms. Phone: (403) 627-3290.

ONTARIO — Oral and Maxillofacial surgery practice for sale. Excellent location and facilities. Please reply Box #2146.

ONTARIO — London. Experienced dentist wishes to buy a practice in London or associate in London with a buy-in opportunity. Reply to CDA Box #2148

ONTARIO — Ottawa. Beautiful dental practice for sale immediately or for June 1983. Well established preventive family practice with 2,200 active files 70-80% insurance. Emphasis on quality restorative dentistry and crown and bridge. 950 sq. ft. per floor (2 floors) clinic for sale or rent. Dentist relocating 25 miles away. Call Carmen (613) 235-6627 or 837-3443.

ONTARIO — Toronto. (45 minutes north of Toronto) Opportunity to purchase exceptional quality progressive family practice with large patient flow. Very high gross and net earnings with low overhead. A first class well equipped facility with potential for further expansion. Owner wishes to move to another city. Reply CDA Box #2147.

NORTHERN ONTARIO — Excellent opportunity to purchase progressive general practice in desirable tourist area. New community sponsored facility, very well equipped. Low overhead, high gross and excellent staff. Please reply to CDA Box #2144.

QUEBEC — Un denturologue offre ses espaces libres pour dentiste voulant opérer dans le secteur Lac-St Jean, à Dolbeau (Population 25,000 avec les environs) Equipement quasi complet salle d'attente, 2 salle de travail, chambre de radiographie, laboratoire etc. Le tout pouvant être aménager au goût du dentiste. Pour information 276-5504.

QUEBEC — Clinique dentaire à vendre. Ile de Montréal-Près du métro. Cause: maladie. Bassin de population environ 400 milles: Même adresse, même no de telephone depuis près de 30 ans, bail de 10 ans, prix raisonnable, bons revenus. Décoration moderne, 1600 pieds carrés, 10 pièces, tapis, climatisation. Possibilité de 2 ou 3 dentistes. Appareils panoramique et péri-apical, 4 salles équipées pour D.O. Salle de chirurgie, salle de repos, 2 laboratoires, bureau privé, cavitron, prophyljet, polycopieuse, secrétariat,

salle de démonstration pour projet de traitement. Le vendeur peut rester locataire ou actionnaire pour une durée discutable. Acheteur sérieux seulement. Adressez-votre demande à l'ADC Journal P.O. Box 2149

QUEBEC — MONTREAL — Clinique moderne à Montréal. Plaza Côte de Neiges. Service de secrétariat Mardan, deux (2) salles opératoires système Cox, installés, deux Heliodont Siemens, deux autres salles avec plomberie finie, laboratoire. Stationnement et autres avantages. Idéal pour deux jeunes dentistes. Appelez au (514) 472-1670.

Associateship Available

BRITISH COLUMBIA — We are looking for an associate to join our busy family practice in picturesque Revelstoke, British Columbia. Our established group offers a unique opportunity to practise high quality dentistry in a low stress environment. For information please call collect (604) 837-5149.

BRITISH COLUMBIA — Associateship available June, 1983 (or after) in B.C. Present associate returning back east after two years. The practice is large one treating mainly families so there is opportunity to practise every branch of dentistry. The equipment is virtually brand new with x-ray head in each of the 9 rooms; a pan x-ray is also on the premises. The associate will have two operatories. A fair percentage is paid. The present associate has consistently taken in an excellent gross income per month and exact figures would be available to interested parties. Williams Lake is a small town in the interior of British Columbia and offers all sorts of outdoor activities, excellent hunting, fishing, skiing, etc. There is a daily jet service to and from Vancouver. Call collect (604) 398-7161 (office) or (604) 392-2611 (home).

BRITISH COLUMBIA — Associate wanted. Mature individuals needed for large group practice in Prince George and surrounding area. Exceptional opportunity with excellent benefits. Interested persons please contact: Dr. Frank Lo or Dr. Richard Suen, 4122 — 15th Ave., Prince George, B.C. V2M 1V9.

ALBERTA — Central. Full-time associate, ambitious, non-smoker, non-drinker, to work extended hours. Minimum three years to maximum of twenty years clinical experience. Willing to do quality, preventive oriented general dentistry with emphasis in orthodontics, pedodontics, periodontics. Willing to work with international dental relief service. Apply to CDA Box Number 2142.

ALBERTA — Associateships with possibility of partnership available in Edmonton and Calgary. Dental offices in conjunction with medical clinics. Contact Dr. Azarko, 14938 Stony Plain Road, Edmonton ph. (403) 483-7079.

ONTARIO — North of Toronto (45 minutes). Associateship available leading to a cost sharing partnership. Prevention oriented, modern, busy four year old practice. Reply in writing to CDA Box Number 2143.

ONTARIO — Associate (or partner) wanted. Full time, ultra modern polyclinic, low stress environment, Ottawa. Excellent opportunity for general practice endodontist or periodontist. Two operatories, fully computerized business office. Option to become full partner will be encouraged. Reply to Suite 501, 381 Kent St. 237-7711.

ONTARIO — Associates (and partners) required for modern offices in Hamilton, Oakville, Scarborough, Ottawa, etc. Excellent conditions and potential. Call (416) 524-2978.

ONTARIO — Oral and Maxillofacial Surgeon: Opportunity to associate or partnership, lease quality practice in high density area in Ontario. Owners will consider various forms of association. Excellent 10-year-lease in new modern office in extremely high traffic area. Complete confidence. Reply to CDA Box Number 2138.

Opportunities Available

BRITISH COLUMBIA — Certified Specialists. Large group practice for 21 dentists would like to expand services offered to include those of periodontist and oral surgeon. Facilities include new building, 31 operatories, well established hygiene department employing 5 hygienists, fully equipped GA room, and computerized accounting services. Abundance of lakes, forests and mountains offer a wide spectrum of recreational activities.

ies. Persons interested please contact: Dr. Richard Suen or Dr. Frank Lo, 122 — 15th Avenue, Prince George, B.C. V2M 1V9.

ALBERTA — Calgary. Periodontist required for a busy progressive periodontal practice. An individual interested in a partnership is desirable. Excellent opportunity for a sincere practitioner in a quality-oriented practice. Send resumé to CDA Box Number 2139.

ONTARIO — University of Toronto. Research association position for a neurophysiologist with research experience in brain organization of mastication and related oral-facial reflex activities or in brain mechanisms of oral-facial sensation. Annual salary: \$17-19,000. In accordance with Canadian Immigration requirements, the advertisement is directed to Canadian citizens and permanent residents. Contact Dr. B. J. Sessle, Faculty of Dentistry, 124 Edward St. Toronto M5G 1G6

ONTARIO — Live in Canada (Windsor) and participate in a broad-based, comprehensive, twenty-one month certificate postdoctoral program in endodontics. Graduates receive extensive clinical experience and are well prepared for specialty board examination. Deadline for class beginning September 1983 is June 1, 1983. Additional information and applications can be obtained from Department of Endodontics, University of Detroit School of Dentistry, 2985 E. Jefferson Ave., Detroit, MI 48207

Opportunities Wanted

ALBERTA — University of Alberta graduate with ten years experience in general practice returning to Alberta in late March (after one year in Australia) seeks locum or position in private practice, preferably in Calgary area. Available April, 1983. Please contact Dr. David Maclure c/o R.R. #1 underby B.C. V0E 1N0 or phone 604-838-9794.

ONTARIO — Associateship required. Dentist completing internship at St. Michael's Hospital in April, 1983 wishes part-time evening and/or Saturday associateship in Toronto area for several years while in graduate school. Available immediately. Also available for locum/full-time from May-August 1983. Call Dr. Darlene Postello (416) 360-4409.

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We understand the value of outstanding talent and would like to work with you. We enjoy a successful, progressive practice in Richmond, British Columbia.

For interview write or telephone

Dr. Bud Sipko, 7300 Westminster Highway, Richmond B.C. V6X 1A1, (604) 270-1341 (office) or (604) 273-3258 (home)

DENTAL DIRECTOR

The Battlefords Indian Health Centre Inc. is a Community Health Centre run by and for the Indian people in the North Battleford District in Saskatchewan. We are seeking applicants for a Dental Director.

Duties:

The work includes the direction and expansion of a dental health program in the reserve schools; clinical duties including patient assessment, treatment planning, surgical and restorative treatment; supervision of dental nurses and other auxiliaries; staff training and orientation; administration of the dental program; program planning and implementation; program evaluation.

Qualifications:

Candidates must be eligible for registration in the province of Saskatchewan. An interest or experience in dental health education or children's dentistry is desirable.

Please apply in writing to:

The Executive Director, Battlefords Indian Health Centre Inc., Box 250, NORTH BATTLEFORD, Sask. S9A 2Y1

For further information, phone (306) 445-7734

MYO-TRONIC FOUNDATION OF CANADA — FIRST ANNUAL MEETING

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Guest Speakers:

Dr. H. Shimbashi — Drayton Valley, Alberta — Introduction of Myo-Tronics in Neuromuscular Occlusion;

Dr. Jack Hanvey — Vancouver, B.C. — Introduction of Myo-Tronics in Orthodontics;

Dr. William Elkins — Colorado Springs, Colorado — The Role of Myo-Tronics in Fixed and Removable Prosthodontics.

Registrations accepted by contacting:

Myo-Tronics Foundation of Canada, P.O. Box 2352, 201 Towers Building, Drayton Valley, Alberta, Canada, T0E 0M0, Phone: 403-542-5385.

UNIVERSITY OF HONG KONG

**LECTURESHIP IN ORAL SURGERY
& ORAL MEDICINE**

Applications are invited from suitably qualified dentists for appointment to a newly established lectureship in the Department of Oral Surgery and Oral Medicine from September 1, 1983 or as soon as possible thereafter.

Annual salary (superannuable) is on a 13 point scale: HK\$119,460 — 248,220. At December 23, 1982 the exchange rates were: £1 = HK\$10.50; US\$1 = HK\$6.50; C\$1 = HK\$5.30; NZ\$1 = HK\$4.80; \$A1 = HK\$6.40). Starting salary will depend on qualifications and experience.

At current rates salaries tax will not exceed 15% of gross income. Children's education allowances and medical benefits are provided and long leave is given at the rate of one sixth of the period served. For overseas appointees housing is provided at a rental of 7½% of salary and air passages are provided on appointment, on long leave and on retirement/ resignation.

Further particulars and application forms may be obtained from the Secretary General, Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF, England or from the Appointments Unit, Secretary's Office, University of Hong Kong, Hong Kong. The closing date for applications is **30 April 1983**.

THE UNIVERSITY OF BRITISH COLUMBIA

GRADUATE PERIODONTICS

The Faculty of Dentistry offers two programs in graduate periodontics:

- 1) A 2-year certificate (diploma) program.
- 2) A 3-year program leading to both the certificate (diploma) in periodontics and the M.Sc. degree.

Applications for programs commencing in September 1984 should be submitted by October 1, 1983.

Further information and application forms may be obtained from:

The Division of Graduate/Postgraduate Studies, Faculty of Dentistry, 2199 Wesbrook Mall, The University of British Columbia, Vancouver, B.C. V6T 1Z7.

BERMUDA MEETING

The next Bermuda Dental Association Convention will be held at the "Southampton Princess Hotel" on June 29th, 30th and July 1st and 2nd 1983.

Registration Fee: \$250.00 U.S.

Speakers:

Maurice H. Martel, D.D.S., Assistant Clinical Professor, Tufts University.

Programming for Success and Excellence in Crown and Bridge Prosthodontics.

Dan Nathanson, D.M.D., F.A.I.D.S., Professor and Chairman, Department of Biomaterials, Boston University.

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Further details from:

Robert E. Gibbons, B.S., D.D.S., "Erin", Paget, Bermuda. 6-20, Tel: (809) - 292-4477 or (809) - 296-4477

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The Department of Restorative Dentistry requires full time faculty with advanced education in the following subjects:

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Responsibilities:

- Teach Undergraduate and Post Graduate Programmes
- Research • Continuing Education • Private Practice Privileges • Potential for Directorship of Graduate Prosthodontics • Potential for Directorship of Undergraduate General Dentistry

Qualifications:

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Applications for appointments in 1983 should be submitted immediately complete with curriculum vitae and references to:

D.V. Chaytor, D.D.S., M.Sc., Professor and Chairman, Department of Restorative Dentistry, Dalhousie University, Halifax, Nova Scotia, B3H 3J5

Dalhousie University is an equal opportunity employer.

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

Announcements

1983 CANADA

March/mars

The Royal College of Dentists of Canada Membership Examination will be held in Toronto on June 17-18 1983. Applications should be submitted to Dr. John E. Speck, Registrar, Royal College of Dentists of Canada, 170 St. George St. Suite 614, Toronto Ont. M5R 2M8. Because of the teness of this advertisement, the deadline will be extended until **March 15, 1983.**

Periodontal Symposium, presented by the **Ottawa Dental Society**, will be held at the Talisman Motor Hotel, Ottawa, March 28, 1983, from 9am to 5pm. Speakers are Drs. Myron Poplove, Richard Amaoka, James MacDonald, Jean-Marc Vincent, André Marcil, Dan Morrow, John Morrow, John Whyte and Bruce Quires.

April/avril

The Ottawa Dental Society presents "Predictable Restorative Procedures" by Dr. Alvin Fillastre of the L.D. Pankey Institute, Florida, Talisman Motor Hotel, Ottawa, April 18, 1983, from 9am to 5pm. The meeting will be followed by dinner, a general business meeting and elections for ODS members.

The Faculty of Dentistry, Dalhousie University will offer a review course for oral and maxillofacial surgeons from April 18-22, 1983. This is the first time such a comprehensive review course has been offered in Canada. Topics will include Medicine, Physical Diagnosis, TMJ Surgery, Trauma, Anaesthesia, Dento-facial Deformities, Infection and Cleft Palate. Participation exercises in histopathology designed specifically to meet the needs of oral and maxillofacial surgeons will be offered in four evening sessions. It is being co-ordinated by Dr. David S. Precious, Director of the graduate program in Oral Surgery. Brochures, including application forms, can be obtained by writing: Continuing Education in Dentistry, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia B3H 3J5, Canada; (902) 424-2248.

The Canadian Craniofacial Society will hold their annual meeting in Saskatoon Saskatchewan, April 22-23, 1983. A two-day symposium, in co-operation with the University of Saskatchewan will be held at the same time. Symposium title is: "Current Controversies in Cleft Lip and Palate Habilitation." Featured

speakers include: Dr. Roger West, Seattle, Dr. Bruce Ross, Toronto, Dr. Hughlet Morris, Iowa. Contact Ms. Caroline Dunsmore, c/o Alberta Children's Hospital, 1820 Richmond Rd. Calgary Alta T2T 5C7.

The Kingston and District Dental Hygienists, Assistants and Dentists are holding a Molar-Thon 1983, 5mi (8km) road race and 1 mi fun run for children April 24, 1983, 11 a.m. Kingston Ontario. Profits to be donated to dentistry for underprivileged children. Contact: Molar-thon '83, Deborah S. Steacy, RDH, 2-999 Portsmouth Ave. Kingston Ont. K7M 1X2, (613) 542-1164.

May/mai

The North Central region, in conjunction with the Northeastern region of the American Academy of Dental Group Practice, will hold its 1983 annual meeting in Canada, Westin Hotel, Toronto, Ont., May 13-15, 1983. Contact: American Academy of Dental Group Practice, Ms. Joann Jenkins, Executive Secretary, 1709 Elka Lane, Madison, Wisconsin 53704, Phone: (608) 241-2609.

Ontario Dental Association 116th Annual Spring Meeting, The Sheraton Centre, Toronto, Ontario, May 15-18, 1983. Contact: Mrs. W.C. Durham, 234 St. George Street, Toronto, Ontario M5R 2P1.

"Medic Canada '83... Towards the Year 2000", a major international health care/medical devices conference and exhibition, Edmonton, Alberta, May 29-31, 1983. Contact: Robert S. First, Inc., 707 Westchester Avenue, White Plains, N.Y. 10604; (914) 949-4248.

The 1983 Annual Convention of Les Journées Dentaires du Québec, Montréal, Québec, May 28-June 1, 1983. Contact: Dr. Morton Lang, Executive Director, Les Journées Dentaires du Québec, 3565 rue Berri, Suite 200, Montréal, Québec H2L 4G3. Phone: (514) 842-9112.

June/juin

The Canadian Association of Oral and Maxillofacial Surgeons Meeting, Vancouver, British Columbia, June 3-6, 1983. Contact: Dr. Brian M. Abrams, Secretary, Canadian Association of Oral & Maxillofacial Surgeons, 410 - 11012 MacLeod St.S., Calgary, Alta. T2J 6A5.

The 7th Annual Meeting of the Canadian Health Libraries Association, Winnipeg, Manitoba, June 13-15, 1983. Contact: Marilyn Hernandez, Conference Co-ordinator, Department of Health Library, 220-880 Portage Avenue, Winnipeg, Manitoba R3G 0P1; (204) 786-5867.

July/juillet

The 5th Canadian Congress of Dentistry for Children, Four Seasons Hotel, Calgary, Alberta, July 1-3, 1983. 5th Canadian Congress, 2nd floor, Bow Valley Square II, 205 — 5th Avenue S.W., Calgary, Alta. T2P 2V7.

"ADG-Toronto: A New Leaf on Learning", the 1983 Table Clinics program presented by the Academy of General Dentistry, Sheraton Centre, Toronto, Ontario, July 16-20, 1983. Contact: Department of Meeting Planning, AGD, Suite 1200, 211 E. Chicago Avenue, Chicago, Illinois 60611; (312) 440-4300.

September/septembre

Meeting of the Canadian Academy of Prosthodontics, Vancouver, B.C., September 22-24, 1983. Contact: Dr. B.M. Jackson, 22 Water Street S., Kitchener, Ontario N2G 4K4.

The Association of Prosthodontists of Canada, Annual Meeting, September 24-25, in Vancouver, B.C. Program Chairman: Dr. D. Donaldson, Faculty of Dentistry, University of British Columbia.

First International Symposium on: "Today's Research, Tomorrow's Health Care Delivery." At Faculty of Dentistry, Dalhousie University, Halifax, N.S. September 30 — October 1. Contact: International Symposium, Anniversary 75, Continuing Education Office, Faculty of Dentistry, Dalhousie University, Halifax, N.S. B3H 3J5. Telephone (902) 424-2248 or 424-6507.

The Royal College of Dentists of Canada Symposium on Periodontal Diseases, generously supported by Colgate-Palmolive Canada, as part of the Canadian Dental Association's National Convention, Vancouver, B.C., Monday, September 26, 1983. The keynote speaker for the Symposium will be Dr. Harald Löe, newly appointed Director of the National Institute of Dental Research, Bethesda, Maryland, and presently Dean of the School of Dental Medicine at The University of Connecticut.

October/octobre

The Canadian Academy of Endodontics is holding its annual general meeting Winnipeg Manitoba, October 14-16, 1983. Contact: Dr. W. H. Christie, 233 Kennedy St. Suite 506, Winnipeg Man. R3C 3J5.

November/novembre

Toronto Academy of Dentistry Annual Winter Clinic, Royal York Hotel, Toronto Ont. November 24, 1983. Contact: Academy of Dentistry, 234 St George St. Toronto Ont. M5R 2P2, Telephone 416-967-5649.

International

April/avril

Technedentex, Dublin, Ireland, April 8-9, 1983. An International exhibition of equipment, materials and techniques for education in dentistry, in conjunction with the **15th International Conference of the Society of University Dental Instructors**. Contact: Exhibition Director, Society of University Dental Instructors, c/o Dental School, Trinity College, Dublin 2, Ireland.

International Congress of Dental Technology, organized by the Swiss Association of Dental Prosthetics Laboratories, Palais de Beaulieu, Lausanne, Switzerland, April 14-16, 1983. The theme is "Aesthetics in Dentistry." Contact: Secrétariat du Congrès, Office du Tourisme et des Congrès, 60, avenue d'Ouchy, CH-1006 Lausanne, Switzerland.

International Symposium on Biomechanical Aspects of Prosthodontics, presented by Professor George Zarb, Chairman of Graduate and Undergraduate Prosthodontics, Faculty of Dentistry, University of Toronto, and sponsored by The Hebrew University-Hadassah Faculty of Dental Medicine and the Toronto Alumni Chapter of the Alpha Omega Fraternity, Jerusalem, April 20-21, 1983. Contact: Professor J. Pietrokovski, Director of Removable Prosthodontics, Department of Oral Rehabilitation, The Hebrew University-Hadassah Faculty of Dental Medicine, P.O.B. 12000, Jerusalem, Israel; or Dr. Hart Levin, Co-Chairman, 2006 Bathurst Street, Toronto, Canada M5P 3L1, (416) 781-2751.

Alabama Implant Congress VX, Birmingham, Alabama, April 21-24, 1983. Contact: Alabama Implant Study Group, P.O. Box 4682, Birmingham, Alabama 35206.

9th Annual Meeting of The Society for Biomaterials and 15th International Biomaterials Symposium, Birmingham Hilton, Birmingham, Alabama, April 27 to May 1, 1983. Contact: Society for Biomaterials, c/o Dr. Robert G. Craig, Department of Dental Materials, School of

Dentistry, University of Michigan, Ann Arbor, Michigan 48109.

First International Symposium on Periodontics and Restorative Dentistry, Sheraton-Boston Hotel, Boston, Massachusetts, April 28-30, 1983. Contact: Kim Vander Steen, Quintessence Publishing Co., Inc., 8 S. Michigan Avenue, Suite 2301, Chicago, Illinois 60603. Phone: (312) 782-3221.

May/mai

XII International Dental Show, Munich, Germany, May 9 — 14, 1983. Largest dental exhibition in the world. Information: Munchener Messe-und Ausstellungs-gesellschaft mbH, Messgelände, Postfach 12 10 09, D-8000 München 12, Germany. Telex: 5 212 086 ameg d.

Washington State Dental Association, 1983 Scientific Session, Seattle Center, Seattle, Washington, May 12-14. Contact: Washington State Dental Association, P.O. Box 9824, Seattle, Washington 98109; Phone (206) 622-1914.

Medic-Asia '83. South East Asia's 3rd International Medical and Hospital Equipment Exhibition, World Trade Centre, Singapore, May 23-26, 1983. Contact: The P.R. Department, Interfama Pte. Ltd., Suite 1105, 11th floor, World Trade Centre, 1 Maritime Square, Singapore 0409.

June/juin

The International Congress of Oral Implantologists and the Southern Academy of Implant Dentistry present their Thirtieth Annual Implant seminar. Atlanta Georgia, June 3-5 1983. Contact either: Dr Maurice J. Fagan III, Program Chairman, the Southern Academy of Implant Dentistry, 960 Johnson Ferry Rd. Suite 440, Atlanta Georgia, 30342, (404) 255-5006 or Mr. Clifford J. Kirschner, Executive Director, The International Congress of Oral Implantologists, P.O. Box 2277 Grand Central Station, New York, New York 10163, 201-783-6300.

The next meeting of the American Dental Society of Europe will be held at the St. Pierre Park Hotel, Guernsey from June 28 to July 1, 1983. All enquiries should be made to: Brian J. Parkins, Hon. Secretary, 57 Portland Place, London WIN 3AH England.

The 1983 Annual and Scientific Meeting of the British Dental Association, Stratford-upon-Avon, Great Britain, June 30 to July 3, 1983. For further information contact: British Dental Association, 64 Wimpole Street, London W1M 8AL.

November/novembre

Fédération Dentaire Internationale, 71st Annual World Dental Congress, Tokyo Japan, November 14-20, 1983. Contact: Japan Dental Association, 1-20, Kudan Kita 4-chome, Chiyoda-ku, Tokyo 100 Japan.

1984+

International Association of Oral Pathologists general meeting, to be held in Noordwijkerhout, the Netherlands, June 4-7 1984. Contact: Congress Secretariat, 2nd Meeting of the International Association of Oral Pathologists, c/o Mrs. R. Mooijen, AZVU Pathologisch Instituut De Boelelaan 1117, MB Amsterdam, the Netherlands.

CDA

Canadian Dental Association, 1983 National Convention, Vancouver, British Columbia, September 25-28, 1983.

Canadian Dental Association, 1984 National Convention, Montreal, Quebec, April 8-12, 1984. Contact: Dr. Morton Lang, O.D.Q., 3565 Berri St., Suite 200, Montreal, Que. H2L 4G3. Phone: (514) 842-9112.

Canadian Dental Association, 1985 National Convention, Ottawa, Ontario, September 29-October 2, 1985.

ADVERTISERS' INDEX

Astra Pharmaceutical	151
CDSPI	176, 192
L.D. Caulk Co.	162, 164
Colgate Palmolive Inc	160, 161
Cooper Laboratories Ltd.	OBC
Defense nationale	170
Den-Mat Inc.	145
Dept. of National Defense	170
Dominion Dental Advisory Service	206
K-Comp Computer Services	202
Merck-Frosst	152, 153
Proctor and Gamble Co. of Canada Ltd.	146
Quintessence Publishing Co. Inc.	186
Henry Schein Inc.	168, 169
Stress Publications	202
The Upjohn Co. of Canada	1FC, 207
Western Canada Dental Society/Alberta Dental Association	180
Whaledent International	IBC

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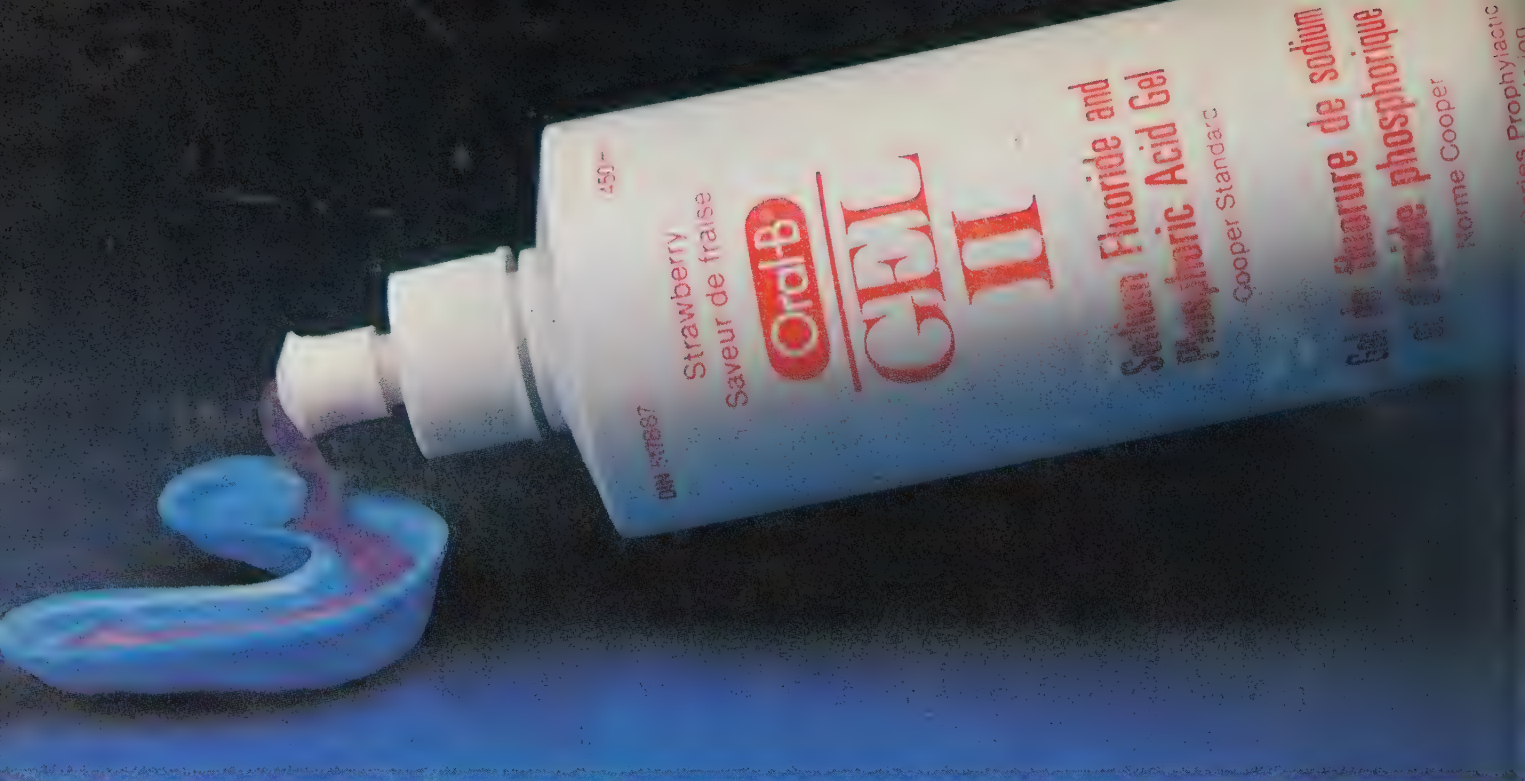
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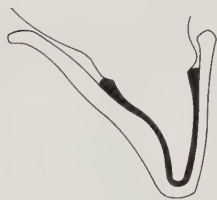


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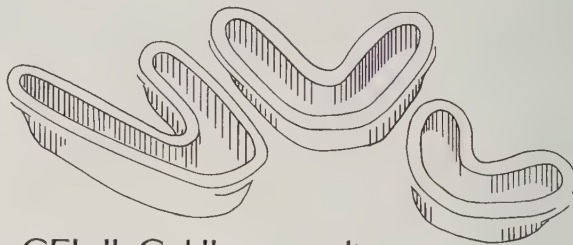
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distal dam which helps contain the fluoride gel and prevents it from being swallowed.

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Réorganisation du Conseil éditorial

Continuing Education
Éducation permanente

Composite Resins
Les résines composites

— Readership Survey —
— Sondage auprès nos lecteurs —
Pages 241, 270

The top half of the advertisement features a light blue sky background with four orange circles of varying sizes. Each circle contains the text "UPJOHN MOTRIN" in black, uppercase letters. Below the circles is a blue grid floor that recedes into the distance. Numerous small, dark blue silhouettes of people are scattered across the grid, appearing to walk away from the viewer.

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*Rondeau PL, Yeung E, Nelson P: Ibuprofen (Motrin) – An Effective Analgesic in Dental Surgery Pain, J Can Dent Assoc 1980
See prescribing information page 245

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CANADIAN DENTAL ASSOCIATION

References: 1. Ostrom, C.A. et al., J Dent Res, 56(3):212-221, 1977. 2. Arends, J., ten Cate, J.M., J Cryst Gro, 53:135-147, 1981. 3. Silverstone, L.M., Caries Res, 11 (Suppl. 1):59-84, 1977. 4. Data file at Procter & Gamble, Inc. 5. Mobley, M.J., J Dent Res, 60(12):1943-1948, 1981. For further information, please contact Crest Professional Services, P.O. Box 355, Station A, Toronto, Ontario M5W

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Editorial

217 The Journal editor invites frank expressions of opinion and constructive criticism in response to a readership survey mail-in page in this edition.

Letter

223 **Canadian dentists still volunteering as "helping hands"**
Dr. G. E. Burgman says there is evidence Canadian volunteer dentists are still doing good work on behalf of Canadian dentistry and Canada and that they have not given up their "helping hands" program despite the fact that funding from CIDA has been stopped.

In the News

223 **CDA Convention scientific program has now been completely arranged.**
The scientific program for the CDA Convention in Vancouver Sept. 26-28 has been organized.

225 **Dental narcotic and drug disposal guidelines have been established.**
Health and Welfare Canada's Bureau of Dangerous Drugs has just released guidelines for the local destruction of narcotics and controlled drugs, including those used by dentists.

226 **Heptavax-B vaccine is no longer in short supply**
Supplies of the new vaccine offering protection against Hepatitis-B virus is now sufficient to meet needs for the next 12 months, the Canadian distributor advises.

239 **CDA's Editorial Board has been reorganized**
Recent restructuring of the CDA Editorial Board and Editorial Staff is explained and new members are introduced.

241 **Readership Survey**
Readers are asked to express opinions about the Journal and submit these to the editor.

248 **Continuing Education**
Courses being conducted during the next few months at several of the faculties of dentistry, and other locations, across Canada.

Briefly

246 Dental news items from across Canada and around the world are highlighted.

Article

231 **Informed Consent**
Dr. Wesley J. Dunn points out the dire consequences of not getting a patient's conscious consent to submit to dental treatment before that treatment is undertaken.

243 **Current state of the art as it applies to the use of composite resins**
Dr. J. W. Brown reports on an international symposium on posterior composite resins held in Chapel Hill, North Carolina.

Clinical

251 **Back problems among dentists.**
Shirley Bassett

257 **Relief of dental pain by ice massage of either hand or the contralateral arm.**
- Ronald Melzack
- Kenneth C. Bentley

CDA Resource Centre

261 The CDA Library/Resource Centre lists articles available on the subject of Diagnosis of Temporomandibular Joint Dysfunction. Also included is a list of new acquisitions.

Publications

265 **Harvard School of Dental Medicine Phase Two in the Development of a University Dental School.**
"It will be of interest to every one eager to discover the back-grounds of today's dentistry. To all of them this book will provide moments of pleasant and enriching reading."
- Dr. Jean-Paul Lussier

Communication for Dental Auxiliaries

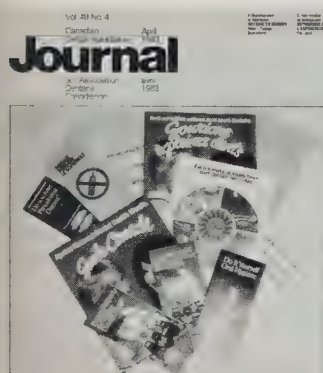
"Unfortunately I cannot recommend this publication for either dental auxiliary students or experienced personnel."
- Connie J. Wesley

Scientific

277 **Clinical evaluation of composite resins and amalgam posterior restorations.**
- Gary D. Derksen et al.

225 RRSP
226 Obituaries
280 Marketplace
283 Announcements
284 Advertisers Index.

Cover Photo: By Heather Lang-Runtz



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Reorganisation du Conseil éditorial
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Les résines composites

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ISSN0709 8936

Éditorial

- 218 La rédaction vous invite à donner franchement votre avis sur le contenu et la présentation du Journal. En outre, elle sollicite vos en espérant que vous les exprimerez d'une manière constructive. Pour vous aider, vous trouverez un questionnaire qu'on vous invite à remplir et à nous retourner le plus tôt possible.

Actualités

- 268 **Réorganisation du Conseil éditorial de l'ADC**
Récemment, l'ADC procédait à une réorganisation de son Conseil éditorial. Nous vous en présentons les nouveaux membres.
- 270 **Sondage auprès des lecteurs**
La rédaction demande aux lecteurs de donner leur avis sur le Journal de l'ADC.
- 267 **Bonnes provisions du vaccin Heptavax-B**
Selon le distributeur canadien, le vaccin Heptavax-B pour prévenir l'hépatite virale B est maintenant disponible en quantité suffisante pour répondre aux besoins des 12 prochains mois.

271 En bref

Un tour d'horizon des principales informations dentaires du Canada et dans le monde.

Article

- 273 **Les résines composites en dentisterie actuelle**
Le Dr J. W. Brown présente un rapport sur le symposium international qui a eu lieu à Chapel Hill (Caroline du Nord) et qui portait sur les résines composites pour les restaurations postérieures.
- 267 REER
- 226 Nécrologie
- 280 Avis
- 283 Petites annonces
- 284 Index des annonceurs

Vol. 49 No. 4

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April
1983

Journal

de l'Association
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avril
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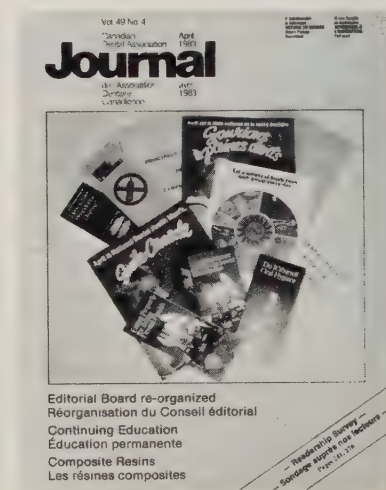
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éditorial

Éducation
permanente

Les résines
composites

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Veuillez nous prévenir le 10 du mois de tout changement d'adresse pour recevoir le journal à votre nouvelle adresse le mois suivant.

Tout abonnement est payable à l'avance en dollars canadiens. Au Canada — \$35, au États-Unis — \$35, partout ailleurs — \$38. Il comprend 12 numéros qui ne correspondent pas nécessairement avec les mois d'une même année.

La direction du Journal ne partage pas nécessairement les opinions qu'expriment ses collaborateurs à moins que l'Association Dentaire Canadienne ne les ait adoptées officiellement.

ISSN 0709-8936

THE FRONT DOOR IS OPEN

Critics are very vital agents of progress. They may not be the most popular of people on occasion, but without them, our world would stagnate.

We at the Journal of the Canadian Dental Association have always welcomed constructive criticism. True, we may wince a bit at times when someone levels both barrels at us, but we are grateful for valid comments.

Unfortunately, our feedback mechanism has not been in the form of a steady flow, and is not representative of a broad cross-section of our readership.

And we find it difficult to believe that so many dentists appear to be such shy, retiring personalities.

Much of our feedback and criticism comes in by the "back door". While attending meetings, conferences and conventions, the editor or a member of the Editorial Board is buttonholed in elevators or hotel corridors by readers who volunteer criticism they have been harboring for some time. If we hadn't shown up at that meeting, we might never have received the message. And, on occasion, some of these comments are highly constructive.

It isn't physically possible for us to attend every dental meeting across Canada. And by the same token, it shouldn't be necessary for readers to wait for such an opportunity to communicate their message.

An obvious first step is to mail us more "Letters to the Editor."

We are prepared to devote as much space as necessary to this forum of dental opinion.

If you feel someone has expressed a "crackpot" opinion in a Journal article, write us and express **your** thoughts.

If the Journal should be providing some additional service that is important to the profession, tell us about it.

In this edition of the Journal we are throwing our Front Door open.

We have devoted space to a **readership survey** page, which we hope will be answered as frankly and completely as possible. If you hesitate to identify yourself as the author of a brutally frank response, then do so anonymously. The anonymity won't bother us — the comment is the important thing.

We are honestly attempting the Utopian task of being all things to all dentists. We know it cannot be achieved on a blanket basis because of the wide divergence of interests between the "wet and dry-fingered" dentists across Canada.

We are also trying to assist those dentists relatively isolated in private practice from colleagues to learn what is happening in the profession in other parts of this far-flung country. We think we are keeping his/her lines of communication open.

The Journal communicates CDA position papers, status reports, contacts and lobbies in government circles, as soon as the information becomes available.

Original scientific papers and reports of research projects, primarily by Canadian authors, are published for the first time in the CDA Journal.

Of late, your Journal staff is addressing all of these interest areas on as wide a basis as is humanly and technically possible.

We are not attempting to emulate other publications, but we do feel, that with your constructive criticism and support, we should be able to provide a unique and helpful magazine for all sectors of the dental profession in Canada.

A publication is never so good that it cannot be improved.

We are depending on you to tell us how this should be done.

Clarence Metcalfe
CDA Journal Editor

P AR LA GRANDE PORTE

Ce sont les esprits critiques qui font avancer les choses.

Ils ne sont peut-être pas toujours les plus populaires mais, sans eux, le monde piétinerait.

Au Journal de l'Association dentaire canadienne, nous acceptons volontiers la critique constructive. Bien sûr, nous faisons parfois la moue si quelqu'un nous tire dessus à boulets rouges, mais nous savons reconnaître une observation valable.

Malheureusement, nos mécanismes de rétroaction ne nous informent pas de façon régulière de la réaction des lecteurs, et ne nous permettent pas d'en dégager une vue générale.

Par contre, nous avons peine à croire qu'autant de dentistes soient gênés, ou gardent la réserve.

Les réactions et les critiques que nous recevons nous arrivent, en grande part, par la "petite porte". Des lecteurs, qui mijotaient leurs observations depuis un certain temps, profitent d'une réunion, d'une conférence ou d'un congrès, pour accrocher le rédacteur ou un membre du comité de rédaction dans l'ascenseur ou le corridor de l'hôtel. Si nous n'avions pas été là, nous n'aurions pas su ce qu'ils pensaient. Et il arrive que certaines remarques soient fort utiles.

Nous ne pouvons pas, en tout état de cause, assister à toutes les réunions de dentistes du pays, et le lecteur ne devrait pas attendre l'occasion pour nous transmettre son message.

La première chose à faire, c'est évidemment d'écrire davantage au rédacteur du Journal.

Nous sommes prêts à consacrer autant d'espace qu'il le faudra au courrier, tribune où convergent les diverses opinions.

Si vous croyez que quelqu'un y a émis un avis "farfelu", écrivez-nous et donnez-nous *votre* point de vue.

Si vous pensez que le Journal devrait offrir d'autres

services importants pour la profession, dites-le-nous.

La présente édition vous en ouvre la grande porte.

Nous y prenons une page pour mener un sondage auquel, nous l'espérons, vous répondrez aussi franchement et complètement que possible. Si vous hésitez à signer une réponse marquée d'une franchise brutale, ne le faites pas. L'anonymat nous laisse indifférents. C'est le commentaire qui nous importe.

Nous tentons sincèrement l'impossible pour satisfaire tout le monde, même si nous savons, généralement parlant, que nous n'y arriverons pas, à cause de la grande divergence d'intérêts entre les praticiens et les théoriciens.

Nous essayons aussi d'aider le dentiste de la pratique privée, relativement isolé de ses collègues, à savoir ce qui se passe dans la profession, ailleurs dans ce vaste pays. Nous lui donnons un moyen, pensons-nous, de garder le contact.

Le Journal présente les vues de l'ADC, offre des comptes rendus et fait état des ses démarches auprès du gouvernement, dès que l'information est disponible.

Il publie en primeur des articles scientifiques et des rapports de recherche inédits.

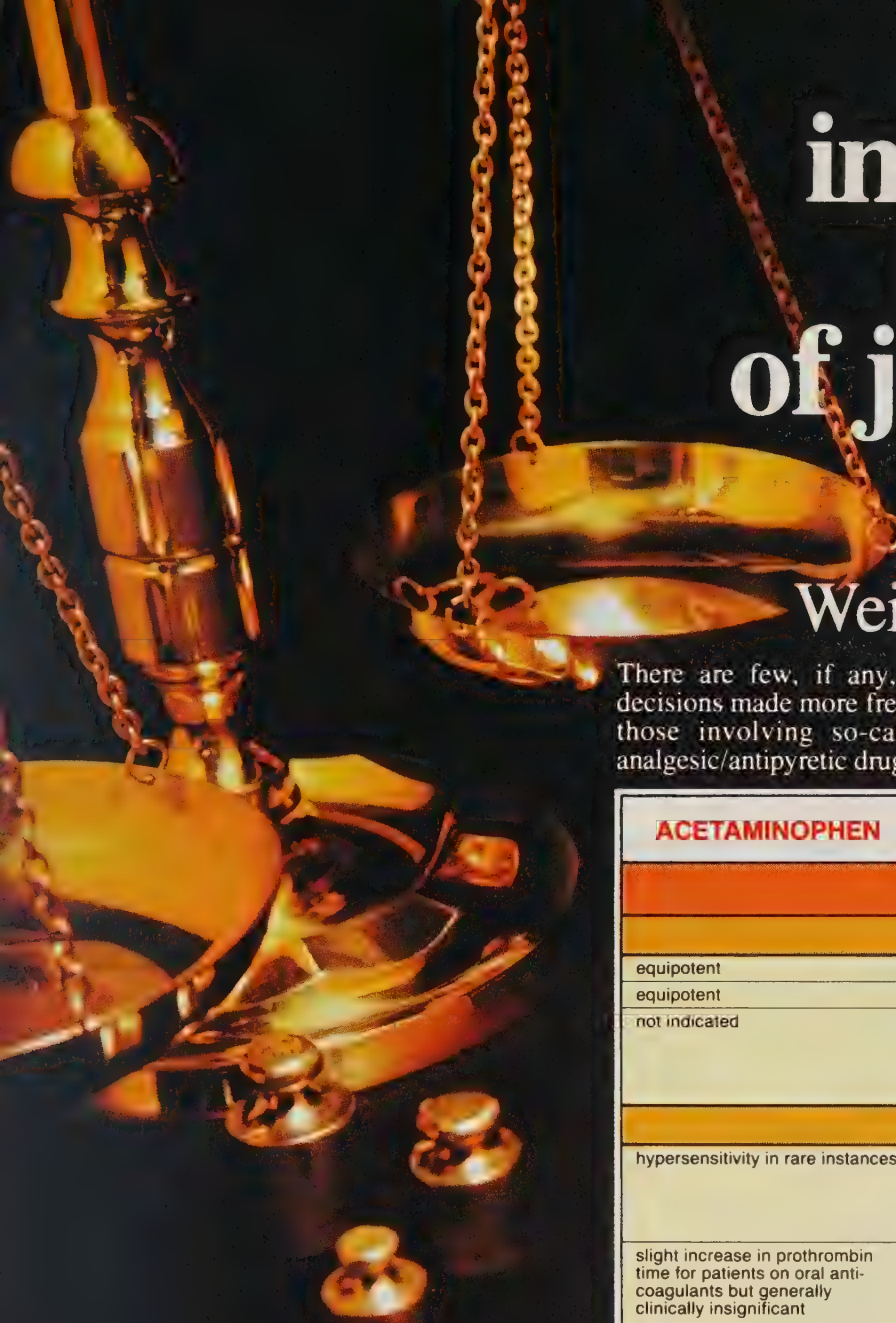
Depuis quelque temps, son personnel aborde toutes ces questions dans une perspective aussi large qu'il est humainement et techniquement possible de le faire.

Nous n'essayons pas d'imiter les autres publications. Avec votre soutien et une critique constructive, nous croyons être en mesure d'offrir un magazine unique en son genre, servant tous les secteurs de la médecine dentaire au Canada.

Aucune publication n'est parfaite, au point de ne pouvoir s'améliorer.

Nous comptons sur vous pour nous indiquer ce qu'il faut faire.

*Clarence Metcalfe,
rédacteur en chef*



An important matter of judgement

Weigh the evidence⁽¹⁻¹³⁾

There are few, if any, therapeutic decisions made more frequently than those involving so-called simple analgesic/antipyretic drugs. There are

two basic choices. The decision can have far-reaching implications for many patients and also determine the efficacy of concomitant therapy.

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AT LABEL DOSAGE		
EFFICACY		
equipotent	ANALGESIC	equipotent
equipotent	ANTIPYRETIC	equipotent
not indicated	ANTI-INFLAMMATORY	required dosage generally exceeds analgesic/antipyretic levels and regular administration is necessary — lesser or intermittent dosage is ineffective
SAFETY		
hypersensitivity in rare instances	ADVERSE EFFECTS	GI bleeding, ulceration, nausea, vomiting, diarrhea, vertigo, tinnitus, hearing loss, pruritus, urticaria, angio-edema, anaphylaxis
slight increase in prothrombin time for patients on oral anticoagulants but generally clinically insignificant	PRECAUTIONS	history of GI ulcerations, bleeding tendencies, anemia or hypoprothrombinemia; patients with asthma or other allergic conditions; concomitant use with anticoagulants, uricosurics, other non-narcotic analgesics, hypoglycemics, alcohol, methotrexate.
none, except rare hypersensitivity	CONTRAINDICATIONS	salicylate sensitivity, active peptic ulcer
no known risk	IN PREGNANCY	risk of anemia, hemorrhage, delayed or prolonged labour, increased risk of intracranial hemorrhage in premature infants, premature closure of the ductus arteriosus
no specific risk	IN CHILDREN	specific risk of intoxication using therapeutic dosage in febrile and dehydrated children
rare equivocal reports of reversible liver function abnormality at high dosage	HEPATIC TOXICITY	reversible hepatitis in apparent risk groups at high dosage
equivocal	ANALGESIC NEPHROPATHY	equivocal
oral anticoagulants (as above) chloramphenicol (increased half life)	DRUG-DRUG INTERACTIONS	oral anticoagulants, uricosurics, non-steroidal anti-inflammatory agents, oral hypoglycemics, corticosteroids, ethyl alcohol, methotrexate
ACUTE OVERDOSE		
potentially serious	CLINICAL RISK	potentially serious
supportive management and/or specific antidote (N-acetylcysteine)	TREATMENT	supportive management — no specific antidote

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But the sad fact is, your patients won't be able to buy a bag, box or bottle of NutraSweet anywhere.

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They can only buy foods and beverages

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The taste of sugar without the calorie

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This, in turn, means they may be more likely to stick to the diet you've recommended.

Foods made with NutraSweet taste like foods made with sugar. Yet, because NutraSweet is 200 times sweeter than sugar, much less is needed to do the job.

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- Ginger Ale
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- Dr Pepper™
- rite™ diet Coke™, Fresca™
- re Spring™ Ginger Ale,
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- Sugar-Free Pepsi Free™
- et Rite™ Cola
- Sugar-Free Shasta™
- Sugar-Free SunCrest™
- ight Watchers™ Sugar-
- ce Soft Drinks
- Cormicks dietetic cookies
- weet 'N Low™ Drink Mixes
- etri/System™ 2000 Dessert
- Drink Mixes

It's a sweet nutritive substance made of protein components like those found naturally in most foods. A dipeptide made of aspartic acid and phenylalanine[†] (as the methyl ester).

So, except for the calories, it's not like saccharine at all.

It has no bitter aftertaste. And unlike saccharine, the body metabolizes NutraSweet naturally as it does any protein.

This makes NutraSweet especially welcome news for persons with diabetes.[†]

In fact, the Canadian Diabetes Association has found NutraSweet to be acceptable sweetener for products that may be included in diabetic meal plans.

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The average family of four eats about 100 pounds of sugar a year, much of it in products that make up a surprisingly large part of nearly every family's diet. Consider this as it applies to dental health alone.

NutraSweet is like protein. Unlike sugar—a carbohydrate—research has shown NutraSweet to be non-cariogenic.

And since it's nutritive and makes things taste as good as it does, NutraSweet can become an important way to satisfy the "sweet tooth" of every family member. Children as well as adults.

Now they can love what they can't buy.

NutraSweet is only an ingredient.

But a number of innovative companies are making NutraSweet an important part of some of their products.

Right now, this growing list of products includes carbonated soft drinks, pre-sweetened cereals, crystal beverages, dessert mixes and the tabletop sweetener, Equal®.

To help your patients tell these products from the rest, companies are putting the NutraSweet name on packages and labels.

Encourage your patients to look for it when they shop.

Because when they find it, they're gonna love what NutraSweet does for their diets. And you're gonna love what NutraSweet does for them.



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Yes, I think my patients would like to try NutraSweet. Please send more information and professional samples of gumballs sweetened with NutraSweet to:

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Gumballs available while supplies last. 25 packets of gumballs per addressee. (Allow six weeks for delivery.)

[†]Physicians counseling persons with phenylketonuria (PKU) or diabetes can write Searle Food Resources for additional information. **SEARLE** ©1983 G. D. Searle & Co.

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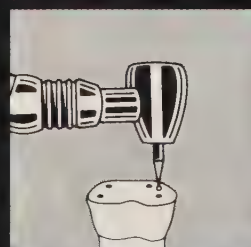
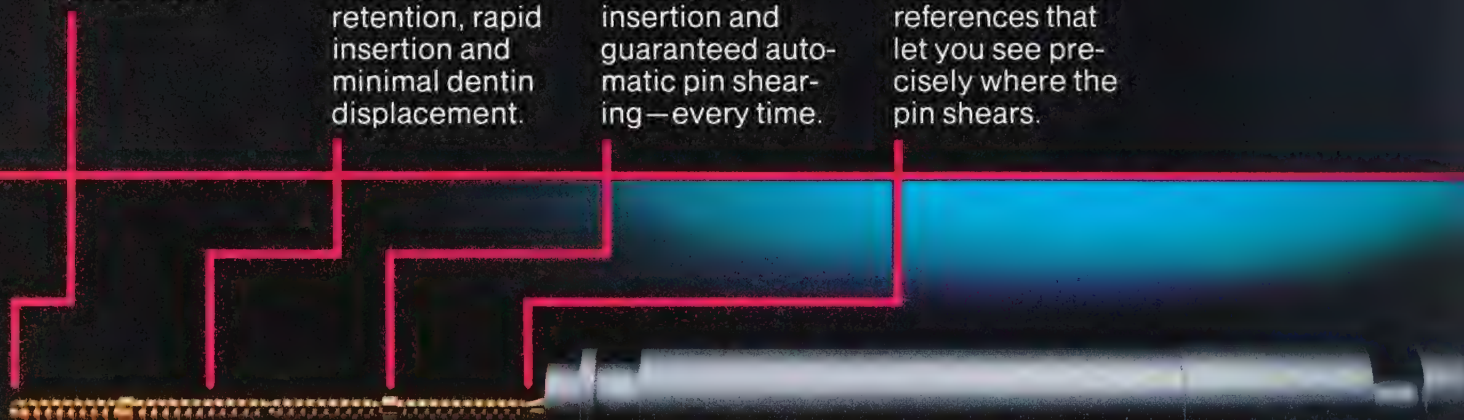
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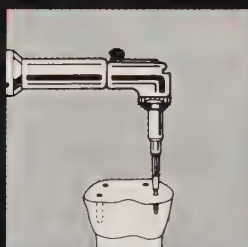
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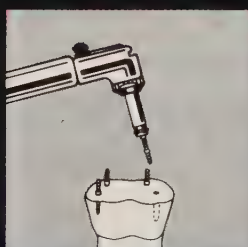
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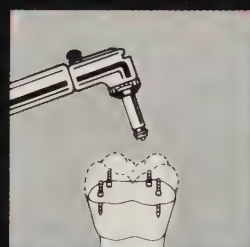
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Canadian dentists still volunteering as 'helping hands'

I read the letter from St. Kitts/Nevis to the Editor in the January, 1983 issue of the Journal with interest. The first was because just last week (January 26, 1983) I talked to Dr. David Boyd who is a graduate of the University of Toronto and is in full time practice in St. Kitts. He practiced for some time in Welland, Ontario before going to the island.

While visiting in Monserrat I visited the dental clinic which is very familiar to me, going back to the days of the Canadian Dental Association Caribbean Dental Program which originated through the efforts of Dr. W.G. McIntosh, then Executive Director of the CDA. As Chairman of the program I had visited the island three

times. It was a pleasure to find Dr. Don Shain of Toronto, a Canadian dentist assisting in the clinic for two months. This also gave an indication that the Canadian dentists have not given up their "helping hands" program despite the fact that they must pay their own air fare since August, 1976 when CIDA stopped the funding to cover the air fare.

The discouraging statement that Dr. Shain made was that when he called the CDA he could not get any direction as to who to call regarding making a contact in the Caribbean and in fact the person to whom he talked did not know that there had been a CDA program. This also seemed apparent late 1970 so I wrote

to the Editor giving the description of the program with figures indicating the number of dentists who served and the number of patients treated as well as the type of treatment. This letter was printed in January of 1981 of the Journal and was prompted by an excellent article in October, 1980 by Drs. Diner, Buffong and Legault, on dental conditions in Montserrat.

There is evidence that Canadian volunteer dentists are still doing good work on behalf of Canadian dentistry and Canada although their numbers are not known to me because each one makes his/her personal arrangements.

*G.E. Burgman, DDS
Niagara Falls, Ont.*

CDA Convention scientific program arranged

Organization of the scientific program for the CDA Convention in Vancouver, September 26-28, has been completed.

Monday September 26 begins with Dr. Ray Contino speaking on fixed prosthodontics from 9 a.m. to noon. At the same time, Dr. Norm Ferguson will be discussing occlusion in the British Room of the Hotel Vancouver.

The Grieve Memorial Lecture will take place between 10:45 and noon in the Waddington Room, while in the Social Suite, the Royal College of Dentists of Canada will present a symposium on periodontal diseases.

Panel discussions will also be taking place on Monday morning, including one on oral surgery and one on removable prosthodontics.

Following lunch at the Hyatt

Regency Hotel in Vancouver, Dr. Charles Bolender will speak on full dentures from 2 to 4:30 p.m. and Dr. Bob Myall will talk about oral lesions. Dr. Contino's lecture on fixed prosthodontics will continue. Two other panels, one on infection control and one on operative dentistry, as well as a continuation of the RCDC symposium will also be presented in the afternoon.

On Tuesday September 27, in the Hotel Vancouver, the program begins with Mr. Covert Bailey, a physical fitness and nutrition lecturer. His day-long program, entitled "Fit or Fat" will focus on fitness and nutrition for dentists and auxiliaries. Other morning speakers include Dr. Bill Collett on radiology, Dr. Dick Tucker on restorative dentistry, as well as a discussion about the future

of dentistry and a panel on periodontal disease.

In addition to a continuation of Covert Bailey's "Fit or Fat" program, Tuesday afternoon features an occlusion panel, one on cancer control, and Mr. Cliff Freehe speaking on Introral photography.

Tuesday afternoon, Wednesday morning and afternoon, also features the CDA teaching conference on practice management. Table clinics will be held Tuesday afternoon and Wednesday morning.

On Wednesday, September 28, Dr. Bob Johnson speaks on periodontics, and Mr. Warren Mitchell speaks on Tax Shelters and Investments. Three panel discussions: one on fixed prosthodontics, one on forensic dentistry and one on endodontics also will take place Wednesday morning.



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<i>Fluoridation Officer / Agent de la fluoruration</i>	Lloyd Bowen	(416) 922-3900

Dental narcotic, drug disposal guidelines established

Health and Welfare Canada recently set guidelines for the local destruction of narcotics and controlled drugs. Such local destruction does not require the presence of an inspector from the Department's Bureau of Dangerous Drugs.

The guidelines for local destruction were set in 1980 for pharmacies and extended in 1981 to hospitals.

Late last year, following a discussion with CDA, J.C. LaCavalier, Director of the Bureau of Dangerous Drugs said "the same basic guidelines could very well be used for dentists or for that matter any other practitioner, as defined in the Narcotic Control Regulations of the Food and Drug Regulations covering controlled drugs."

The following procedures may be followed by a dentist who wishes to destroy unserviceable narcotics or controlled drugs.

- (1) the dentist must obtain prior permission from the Bureau of Dangerous Drugs to destroy these drugs.
- (2) the dentist should inventory the narcotics and controlled drugs he wishes to destroy and forward this list along with a letter directed to the Supervisor of the Region in which the dentist is located. Attached to this letter is a list of the Bureau's Regional Offices giving the geographic areas of responsibility.
- (3) the Regional Supervisor will either give the dentist written permission to destroy the drugs or will make arrangements to have an inspector visit the dentist and to be present when the drugs are destroyed.
- (4) if the dentist is given permission to destroy the drugs, they will be destroyed in the presence of another health professional. Both the dentist and the other health professional will sign and date this list attesting to the destruc-

tion of the drugs therein listed.

For these purposes, a "health professional" is defined as a pharmacist, practitioner, nurse or an inspector from a provincial dental licencing authority.

- (5) once these drugs have been destroyed the list will be filed by the dentist for a minimum of two years. It will not be necessary for a copy of the list of items that have been destroyed to be sent to the Bureau's Regional Office.

The method of destruction and the arrangements for destruction of controlled drugs is the responsibility of the dentist.

Don Bartlet, Chief of Inspection Services for the Bureau of Dangerous Drugs, Health and Welfare, said that the method of destruction is the choice of the practitioner.

"For small quantities such as vials containing 2 or 3 cc of pain killer the most common method of destruction is by flushing it down the toilet."

That method is not necessarily recommended by the Department, said Bartlet, but flushing drugs is the method practiced most often.

Environmental regulations

Depending on the quantity slated for destruction, the practitioner may have to consider the environmental regulations in his or her community.

Most communities have sanitation facilities which can easily absorb small amounts of drugs with little environmental consequence.

Mr. A. Wolfson, the Acting Regional Supervisor of the Bureau of Dangerous Drugs in the Ontario region said the small amounts of drugs flushed into the sanitation system by a dentist would have little environmental impact.

"All you are going to have are some happy fish," said Wolfson.

For larger quantities of controlled drugs, the recommended method of destruction is incineration.

In other parts of Canada, the methods of destruction are the same. Mr. M.R. Brown, Regional Supervisor for the Bureau of Dangerous Drugs, Health and Welfare for Manitoba and Saskatchewan said the two most common ways to destroy drugs is by flushing them down the toilet or by incineration.

"The method is strictly up to the dentist," said Brown.

R. Neske, the Regional Supervisor for the Pacific region (B.C., Alberta and the Territories) said the recommended way for destruction of controlled drugs is incineration, but that not one request for permission to destroy drugs in the Pacific region has been received from a dentist.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association's Retirement Savings Plan stood as follows on February 28, 1983.

<i>Common Stock Fund</i>	\$65.4537
<i>Fixed Income Fund</i>	\$34.8133
<i>Guaranteed Fund</i>	\$25.5898
<i>Balanced Fund</i>	\$13.4029

Total assets (market value) of the plan were \$35,324,279.

The previous month's figures, as of January 31, 1983, stood as follows:

<i>Common Stock Fund</i>	\$63.5503
<i>Fixed Income Fund</i>	\$34.0694

<i>Guaranteed Fund</i>	\$25.3965
<i>Balanced Fund</i>	\$13.1466

Total assets (market value) of the plan were \$34,027,955.

For further information write to: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3 or call the central information services of CDSPI at 1-800-268-5418 (toll free number for Western Canada, Atlantic Canada and Ontario for Code 807 only), 1-800-268-3411 (toll free number for Quebec and Ontario except Code 807), and 497-7117 (Metro Toronto area).

Heptavax-B vaccine no longer in short supply

Heptavax-B, the vaccine shown to be 92.3 per cent effective in protecting high risk individuals, including dentists, against Hepatitis B virus, is no longer in short supply.

André Marchetaire, manager of Heptavax-B at Merck Sharp and Dohme Canada, the Canadian distributor, said "for the time being, unless there is an extraordinary demand, we will be able to meet provincial needs for the next 12 months."

The vaccine, which was approved for use in Canada late last year was developed by the Merck Institute for Therapeutic Research in West Point Pennsylvania. It is produced in the U.S. and supplied in Canada by Merck Sharp and Dohme Canada. This is the only company in Canada currently supplying the vaccine to Canadians.

The production process, according to Dr. Will Dorion, Director of Medical Affairs for Merck Sharp and Dohme Canada is long and complex.

Lengthy production process

"It takes from 60 to 65 weeks to produce one lot of vaccine from human blood plasma, to get all the impurities out," he said.

Key steps for preparation of the vaccine are:

- defibrination to remove protein from the plasma;
- purification and concentration of the surface antigen;
- enzyme treatment to remove any remaining extraneous protein and additional purification;
- sterilization;
- inactivation with formalin;
- pooling;
- adsorption of an adjuvant used for stimulation of maximal antibody response; and
- filling

Safety tests are performed on the original plasma to verify the absence of extraneous infectious agents; on the bulk purified antigen, to provide sterility, purity and inactivation of the virus; and on the filled vaccine for

microbial sterility, protein content, and proper potency. Testing is conducted in artificial media, in cell culture, and in animal species, susceptible to hepatitis B virus infection.

The cost of production, said Dr. Dorion, is dependent upon the time these steps take. "Some batches also yield more than others," he said.

"The vaccine for the present must be made from human plasma and synthesizing it is not in the immediate future," said Dorion.

The selling price to the individual is between \$130 and \$140 for the complete series of injections.

The vaccination regimen consists of two doses one month apart, followed by a third dose six months after the first dose. The initial vaccine doses provide immunity at the earliest possible time period and the booster dose is necessary for maximal antibody titers, together with stimulation of "memory cells" which afford lasting antibody. It is anticipated that immunity following the third shot in the series lasts for at least five years.

Information to provinces

Mr. Marchetaire said the company

has provided information on the vaccine and the disease to each province and the method of distribution is up to the provincial authority.

"Some provinces are distributing through health care units and hospitals, while others are distributing the vaccine through the provincial government health agencies," he said.

At least one dental practitioner was so anxious to obtain the vaccine that he flew to the Merck Sharp and Dohme plant in Montreal to pick it up.

"He flew down to Montreal from another city at his own expense, picked up the vaccine from us and took it home to have it administered to himself by his doctor," said Dr. Dorion.

Experts estimate that 8,000 to 10,000 cases of Hepatitis-B occur each year in Canada.

Besides dentists, other health professionals, such as physicians, surgeons, nurses, medical laboratory technicians as well as dialysis patients and administering personnel are among the high risk groups.

Obituaries/ Nécrologies

GELDART, Stanley, Gordon: Dr. Geldart, a member of the Canadian Dental Association, graduated from the University of Alberta in 1952. Dr. Geldart was born in 1919 and lived in Devon Alberta.

GENDRON, Georges: Diplômé de l'Université de Montréal en 1958, le Dr Gendron était membre de l'Association dentaire canadienne et exerçait sa profession à Thetford Mines (Québec).

HEADLEY, Linda Evelyn: Dr. Headley (nee Sharpe) graduated

from the University of British Columbia in 1970. She was born in 1942 and taught at the University of British Columbia. She was a member of the Canadian Dental Association.

HERSHON, S.: Dr. Hershon, a Life Member of the CDA, graduated from McGill University in 1924. He retired in Pampano Beach Florida.

KICKHAM, James: Dr. Kickham, of Kitchener, Ontario, was born in 1904. He graduated from the University of Toronto in 1931 and was a Life Member of the CDA.

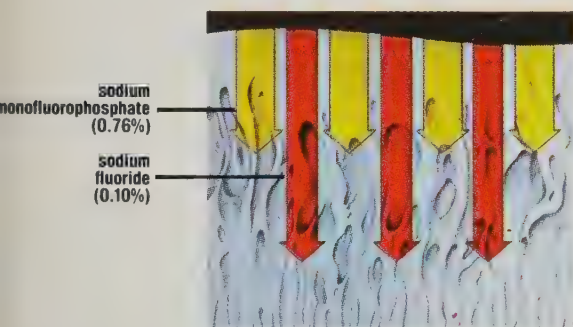
How Colgate's two fluoride formula achieves more complete remineralization resulting in nearly double the cavity protection of a single fluoride formula.*

A major role of fluoride in cavity prevention is to accelerate the process by which remineralized enamel is rebuilt. (1-4) This reverses white spot lesions which would otherwise become cavities.

Today's Colgate is the first toothpaste with two fluorides—sodium monofluorophosphate 0.76% and sodium fluoride at 0.10%. Their differing molecular structures mean these fluorides work at different levels in tooth enamel. The result at these concentrations, is more complete remineralization of white spot lesions than either can achieve alone.

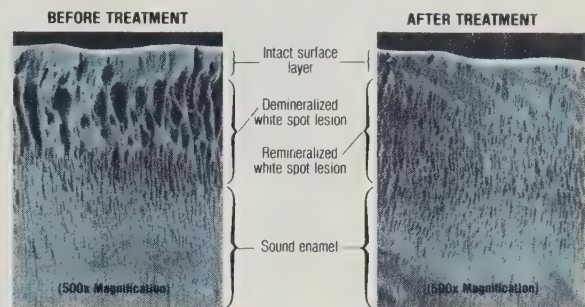
Why these two fluorides remineralize more completely.

Fluorides reach white spot lesions by penetrating enamel through the interprismatic spaces. Sodium monofluorophosphate, being a larger molecule, reacts with enamel primarily at the surface of a white spot lesion. Sodium fluoride, smaller molecule, penetrates deeper into the lesion.



Because they work at different levels the two fluorides complement each other, enhancing remineralization over a greater area of the lesion than a single fluoride* alone.

This complementary action means more fluoride is available to enhance remineralization over a greater area of the lesion, than is provided by either fluoride alone. (5,6)



This more complete remineralization has been demonstrated in laboratory studies, (7) and can be seen in the photomicrographs above.

Clinical studies show nearly double the cavity reduction.

Colgate with this two fluoride concept was tested in a three year clinical study. (8) The results—Colgate's two fluoride formula provided 27.0% reduction in new caries versus 13.8% for the single fluoride positive control* (DMFT).

Conclusion.

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When you recommend Colgate you're recommending an innovative product—offering advanced and clinically tested cavity protection.

*Sodium monofluorophosphate (0.76%)

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4. Levine, R.S., Brit. Dent. J., **138**, 249-253, 1975.
5. Slatter, P.J., et al, Abstract No. 72, ORCA Conference, July 1982, Annapolis.
6. Hayes, H., et al, J. Dent. Res., **61**(4), 541, 1982.
7. Harvey, K., et al, J. Dent. Res., **61**, 243, 1982.
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*Colgate Toothpaste contains sodium monofluorophosphate and sodium fluoride which are, in our opinion, effective decay preventive agents and are of significant value when used in a conscientiously applied program of oral hygiene and regular professional care. Canadian Dental Association

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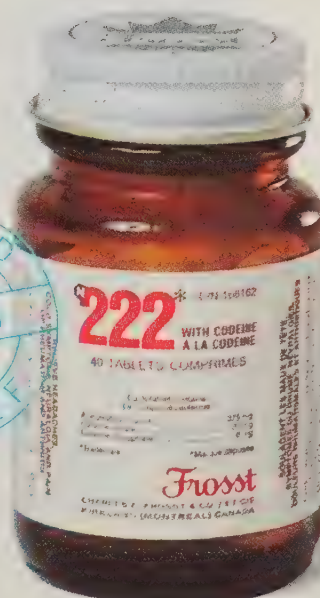
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222*

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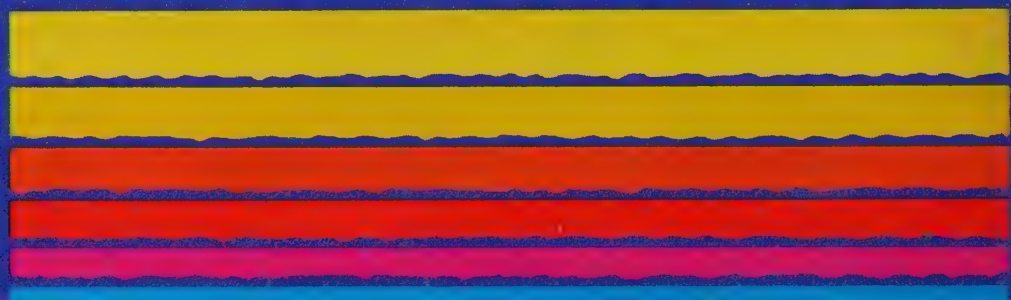
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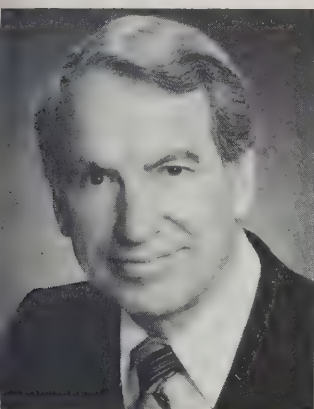


Informed consent

Wesley J. Dunn, DDS, FACD, FRCD (C) (Hon.)

"Every human being of adult years and sound mind has a right to determine what shall be done with his own body; and a surgeon who performs an operation without his patient's consent commits an assault for which he is liable in damages."

Justice Cardozo (1914)



Dr. Wesley J. Dunn
Professor,
Division of Community Dentistry
Faculty of Dentistry
The University of Western Ontario
London, Ontario

PROLOGUE

In 1943 in British Columbia, a twenty-two year old woman had contracted with her surgeon for a tonsillectomy. She suggested to him, as she had two teeth she wished to have removed, that this procedure could be accomplished after she was relieved of her tonsils and while she was still anaesthetized. The surgeon arranged with his brother, a dentist, to perform the extractions.

The young woman did not visit the dentist prior to operation. The dentist had no indication of the teeth to be removed other than what he learned from his brother's comment, over afternoon tea at their mother's, that he thought it was the "uppers". Although the dentist arrived at the hospital in sufficient time to examine the patient before she was taken to the operating room, he made no attempt to do so. He viewed the patient's oral cavity for the first time when she was on the operating table, already anaesthetized. Having decided that the maxillary dentition was such that all the teeth should be removed, he proceeded to do so; and, for good measure, also relieved the patient of a mandibular third molar which, according to his subsequent testimony, was seriously carious.

The patient understandably — and one can imagine her reaction when, quite literally, she awakened to the fact that all her upper teeth were gone — sued the dentist. Perhaps it should come as no surprise to learn she was suc-

cessful. The trial court found that the defendant dentist had not been authorized to remove all her teeth, and, therefore, he was liable in trespass. The damages were \$5200 and costs.

The case eventually reached the Supreme Court of Canada on the question of whether the dentist could claim indemnity from his physician brother who had allegedly purported to act as the plaintiff's agent. Although this aspect has an intriguing familial joust to it, it is not at all pertinent to our current concern.

The five member court, in an unanimous judgment, observed,

*"... the dentist was negligent because, having been invited to act in a professional capacity, a doctor-patient relationship was established which entitled the patient to have an examination, diagnosis, advice and consultations so that she could determine what treatment, if any, she desired, and the dentist knew or ought to have known that the patient did not have the necessary information upon which to have a decision involving the extraction of so many teeth."*¹

INTRODUCTION

Well, need a dentist be concerned that the "informed" consent of the patient is acquired before proceeding to render care? Unquestionably. Gone are the days when patients may have been blindly disposed to accept everything their health care practitioners told them. No more to the doctor's 'jump' is there the acquiescent response of 'how high?' Like it or not, we live in an age of accountability. It permeates every facet of life. The health sciences are far from immune.

Consensus ad Idem

There is, in law, the concept of *consensus ad idem*, the notion that the minds of the parties to a contract — and there is a contract, although usually implied, when a dentist undertakes to render treatment to a patient — must meet in agreement and understanding of the terms of the contract. A dentist cannot begin to treat a patient without

first obtaining the patient's consent to treatment. Such a rule protects the patient's right to choose what should or should not be done with his body. To insure the inviolability of a person's body, treatment without consent is characterized as a harmful touching and therefore a battery. The fact that the result of the treatment was beneficial to the patient does not protect the practitioner from an action because its cause does not depend upon there being injury to the patient. It hinges on the dentist's touching of the patient without having first obtained consent. **And that a patient cannot give a valid consent to treatment about which he knows nothing seems to be a logical proposition.** The right of a patient to decide what to do with his body necessarily implies the right to comprehend the information required to make an intelligent choice.

The disclosure, which the patient needs in order to make a decision, cannot be withheld or limited merely because the patient might, upon learning of the risks, decline the treatment. **Indeed, the right to decline treatment is the very right being protected.**

A dentist would be unwise, in seeking the consent of a patient for the removal of a number of teeth preliminary to the fabrication and insertion of a removable prosthesis, not to explain to the patient that in comparison with one's natural dentition, in a reasonably acceptable condition of health, a prosthesis can be only fractionally efficient. A patient believing, prior to treatment, that 'once I have my denture all my troubles will be over' may return to haunt the totally non-negligent practitioner.

Self-Determination and Duty of the Practitioner

Steven Blair Sharpe has written an excellent book, *"Informed Consent—Its Basis in Traditional Legal Principles,"* and I quote freely from it.² He says that upon this background of the individual's inviolable right of self-determination must be overlaid another concept, namely the notion that a person who occupies a relationship of trust and confidence with another and who, because of superior and special knowledge, is relied upon by the other to render expert and objective advice, stands in a fiduciary relationship to the person. The result of this relationship of trust is that the practitioner is liable for harmful misrepresentation, whether by affirmative statement or non-disclosure.

The practitioner's duty, then, is never to misrepresent by words or silence the nature and character of the procedure he proposes to undertake. An affirmative duty exists to disclose that body of information necessary to allow the patient, rationally and freely, to consent to the treatment. Although the extent of the disclosure has been the subject of much argument and litigation, it is generally considered that there is an absolute duty of disclosure on the part of the practitioner. Indeed, some courts in the United States have considered that the total absence of disclosure on the part of the practitioner immediately raises the presumption of liability.

In terms of social values and goals, the problem of con-

sent causes a real dilemma. Sharpe quotes Louisell and Williams, who, in their book, *Medical Malpractice* (1974), view the problem as one of conflicting values. On the one hand, "... our society is morally, psychologically and legally committed to individual self-determination. Since the patient bears the entire risk of non-negligent injury and is concerned with his own interests as no other person can be, it is only fair to allow him to choose between accepting or rejecting the hazards of a proposed treatment even if his choice is irrational."

On the other hand, the medical profession expresses the valid concern that to disclose possibly frightening details to an already apprehensive patient would do more harm than good, threatening the efficiency of the proposed treatment. Moreover, indicates Louisell, "... whatever the failure of consent, the medical procedure undertaken may have been so indispensable to life or health, and the risks so minimal in relation to gains, that the procedure indisputably would have enjoyed the concurrence of all competent appraisers."

The Law in Canada

If, prior to 1980, Canadian law concerning informed consent were not as clear as one might have wished, there seems little doubt now—although, admittedly, some subjectivity will always attend the judgmental process—about what is legally required.

The Chief Justice, speaking unanimously for the Supreme Court of Canada, in the leading *Reibl v Hughes* case, and in quoting another 1980 action before the same court, *Hopp v Lepp*, commented as follows:

"It is now undoubted that the relationship between the surgeon and patient gives rise to a duty of the surgeon to make disclosure to the patient of what would call all material risks attending the surgery which is recommended. The scope of the duty of disclosure was considered in *Hopp v Lepp* where it was generalized as follows:

'In summary, the decided cases appear to indicate that in obtaining the consent of a patient for the performance upon him of a surgical operation, a surgeon, generally, should answer any specific questions posed by the patient as to the risks involved and should, without being questioned, disclose to him the nature of the proposed operation, its gravity, any material risks and any special or unusual risks attendant upon the performance of the operation. However, having said that it should be added that the scope of the duty of disclosure and whether or not it has been breached are matters which must be decided in relation to the circumstances of each particular case.'

The Court in *Hopp v Lepp* also pointed out that even if a certain risk is a mere possibility which ordinarily need not be disclosed, yet if its occurrence carries serious consequences, as for example, paralysis or even death, it should be regarded as a material risk requiring disclosure."³

The Supreme Court of Canada analysed this responsibility in greater depth and although there is specific reference to 'medical' the summarized conclusions apply with equal validity to matters 'dental':

. The question of whether a risk is material and whether there has been a breach of the duty of disclosure are not to be determined solely by the professional standards of the medical profession at the time. The professional standards are a factor to be considered.

. The duty of disclosure also embraces what the surgeon knows or should know that the patient deems relevant to the patient's decision whether or not to undergo the operation. If the patient asks specific questions about the operation, then the patient is entitled to be given reasonable answers to such questions. In addition to expert medical evidence, other evidence, including evidence from the patient or from members of the patient's family is to be considered.

. A risk which is a mere possibility ordinarily does not have to be disclosed, but if its occurrence may result in serious consequences, such as paralysis or even death, then it should be treated as a material risk and should be disclosed.

. The patient is entitled to be given an explanation as to the nature of the operation and its gravity.

. Subject to the above requirements, the dangers inherent in any operation such as the dangers of the anaesthetic, or the risks of infection, do not have to be disclosed.

. The scope of the duty of disclosure and whether it has been breached must be decided in relation to the circumstances of each case.

. The emotional condition of the patient and the patient's apprehension and reluctance to undergo the operation may in certain cases justify the surgeon in withholding or generalizing information as to which he would otherwise be required to be more specific.

. The question of whether a particular risk is a material risk is a matter for the trier of fact. It is also for the trier of fact to determine whether there has been a breach of duty of disclosure.⁴

The above summary strongly suggests that if a dentist proposes to embark on the surgical removal of a mandibular molar whose roots are lying in frightening proximity to the inferior dental canal then in seeking the informed consent of the patient prior to operation the risk of a resulting paraesthesia should be explained very clearly.

Elements of Valid Consent

In September 1979, the Ontario Interministerial Committee on Medical Consent prepared a **Discussion Paper** preparatory, it is presumed, to the eventual recommendation of a statutory provision respecting consent for health care services. The elements for a valid consent were clearly expounded:

. The health care provider has an obligation to ensure that sufficient information is provided to his patient

about the nature and consequences of the intended procedures to allow the patient to come to a reasoned decision.

2. The patient must be mentally competent. That is, the patient must have the ability to understand and appreciate the nature and consequences of the procedure.
3. The consent must be freely given.
4. The consent must not be obtained through misrepresentation or fraud.
5. One cannot consent to the performance of an illegal procedure.
6. While consent may be tacit or implied, express instructions override any such implied consent.
7. The consent must be in relation to the procedure actually performed, unless the patient's life or health is immediately endangered and it is impracticable to obtain the patient's consent.⁵

The Record of Informed Consent

Except for certain circumstances, not germane to this paper, the law does not generally hold that consent must be in a particular form. Spoken consent or consent implied by the patient's conduct, if proved, will satisfy legal requirements as well as consent in writing. However, many cases have shown that an oral or implied consent may be difficult to prove in court. Thus the main purpose served by a written consent is that it provides the most direct, effective proof of valid consent. Beyond that, a properly designed consent form, **supported by appropriate procedures for its use**, can serve as a checklist and guide, facilitating the free interchange of information between practitioner and patient that the law seeks to foster.

For a consent document to be effective as proof, Rosoff, in his book, *'Informed Consent — A Guide for Health Care Providers'*, says it must include all the elements of a valid enforceable consent. In general, the form must set forth:

- the diagnosis
- the nature and purpose of the procedure(s) for which consent is sought
- all material risks and consequences of the procedure(s)
- an assessment of the likelihood that the procedure(s) will accomplish the desired objective
- any reasonably feasible alternatives for treatment, with the same supporting information as is required regarding the proposed procedure(s)
- the prognosis if no treatment is provided.

The consent document must be signed by the patient or, if the patient is incompetent, by someone who is legally authorized to consent on the patient's behalf.⁶

If a consent form is to be used, **one of general applicability should not be employed**. Its use raises the same legal problem as reliance upon voluntary submission to prove consent. In both instances, the patient is apparently permitting the practitioner to proceed with some treatment. In both instances, too, there is no way of determining

without testimony what information was given to the patient. There is little difference, then, between the situation where a patient is taken to an operating room without having signed any authorization and the situation where the patient has signed a consent to whatever surgery the practitioner deems advisable... The written general consent form serves as evidence of the patient's voluntary submission to treatment, which is generally self-evident, but in no way does it demonstrate that the patient understood the specifics of the treatment that was to be undertaken.⁶

Recognizing that comprehensive consent documents are generally not employed in dental practice—a calculated risk with which most dentists are prepared to flirt—it is of utmost importance that the patient's chart clearly and unequivocally reflect that 'informed' consent, based on the elements earlier listed, has been verbally received. It is imperative that the dentist be in possession of and conscientiously employ an unassailable, impregnable record keeping system. If subsequent testimony in court is required then it becomes vitally important that the dentist is able to give persuasive evidence to the effect that the maintenance of complete and accurate office records is an unfailing routine and that the records were made contemporaneously with the facts to which he is testifying.

CONCLUSION

To paraphrase Sharpe, it is clear that a regulatory mechanism exists whereby society can, if it wishes, hold the dentist accountable for what is proposed to be undertaken. There is, in law, the means by which the patient can transform the paternalistic (or maternalistic) model of health care services into an exercise of shared decision-making. The notion of 'informed consent' to treatment is that mechanism, for the law recognizes that one cannot agree to something about which one knows nothing. The law guarantees, and therefore requires, that the patient be entitled to make a free and intelligent choice.²

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- 6 Rosoff, Arnold J. *Informed Consent — A Guide for Health Care Providers*, Rockville, Maryland, Aspen Systems Corp'n., 1981.

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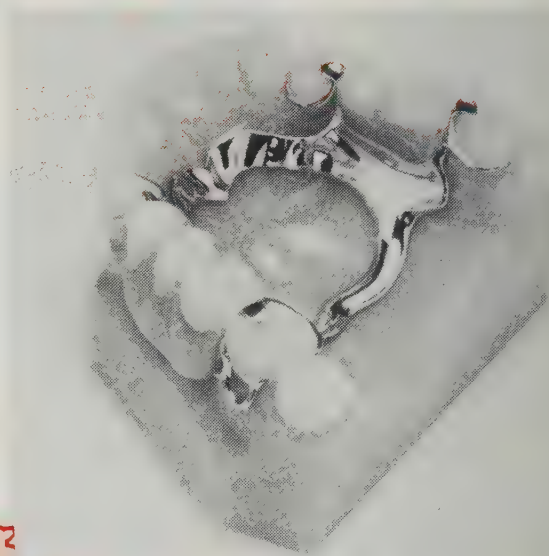
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CDA's Editorial Board has been re-organized

The structure of the CDA Editorial Board was recently altered. Formerly, it consisted of the chairman, a dental practitioner, one other dentist, the Director of Communications, the Editor, two Scientific Editors and the Advertising Manager.

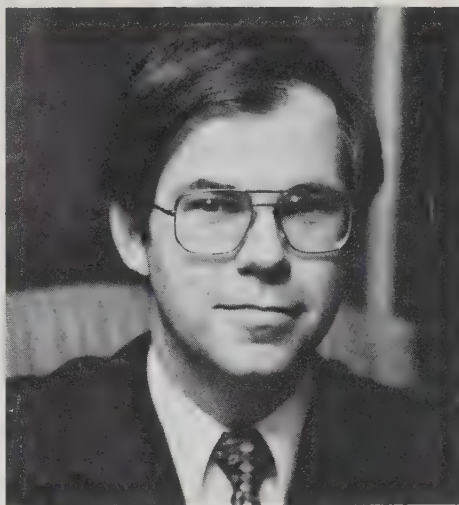
Now the Board is comprised of the chairman, Dr. Alex MacLeod of Halifax, N.S., continuing member Dr. A.D. Sparrow of Calgary, Alberta, the Editor, Clarence Metcalfe, Director of Communications, Mrs. Doris L. Goodwin, and two additional dentist-members — Dr. J.D.R. Grier, of Victoria, B.C., and Dr. Marvin Klotz, of Willowdale (Toronto) Ontario.

The CDA Executive Director, Mr. Hubert Drouin, is a member ex-officio.

Members of the Editorial Staff are: Advertising Manager, Ms. Anna Spencer, the Scientific Editors — Dr. R.S. Turnbull (English) and Dr. Pierre C. Desautels (French), the Editor and Associate Editor, Carolyn Hackland.

The Board is entrusted with the production of the Journal of the Canadian Dental Association, adhering to the following guidelines.

The publication shall represent excellence in journalism, excellence in editorial and advertising content, publish worthy original scientific and clinical articles, encourage scientific and special interest articles, written by Canadian authors, be an editorially well-balanced Journal in French and English, of interest to the greatest number, disseminate news and Association business in concert with all other Association publications, be distributed to members of the Association and such others as the Board of Governors may determine from time to time, and aim to operate on a balanced budget.



Mr. Hubert Drouin, Executive Director, Member ex-officio

Members of the board

The chairman, **Dr. Alexander E. MacLeod** is a general practitioner, a management consultant, and was a member of the Dental Faculty, Dalhousie University, Halifax, from 1968 to 1981.

He followed his father into the profession in his native city, Glasgow, Scotland. During his first sojourn in Canada, Dr. MacLeod attended Dalhousie University where he graduated with his DDS degree, in 1962.

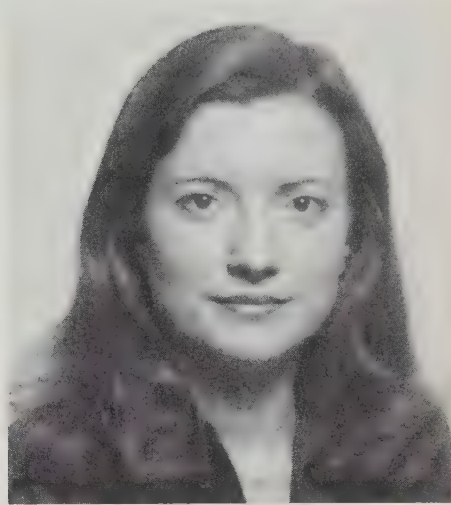
In 1968, he moved permanently to Canada and joined the faculty of Dalhousie dental school.

Dr. MacLeod is a former member of the CDA Council on Information Services and was chairman of that Council from 1977 to 1981.

He chaired CDA's ad hoc committee to review the Journal, in 1978, and has been chairman of the Editorial Board since 1979.

Dr. A.D. Sparrow is engaged in the specialty practice of Oral Surgery in Calgary, Alberta. A native of Calgary, he was graduated from the University of Toronto dental school in 1945.

Dr. Sparrow has been a member of the Board of Directors of the Alberta Dental Association since 1963 and



Mrs. Doris Goodwin, Director of Communications

was President of the ADA in 1969-70. He is also a sessional lecturer in Oral Surgery at the Faculty of Dentistry, University of Alberta.

He was named a Fellow of the Royal College of Dentistry of Canada in 1967.

NEW MEMBERS

Dr. Marvin Klotz, a paedodontist with a private practice in Willowdale, a suburb of Toronto, Ont., was graduated from the University of Toronto with a DDS degree in 1960.

A dentist with a very considerable writing talent, Dr. Klotz has made his expertise available as editor of several professional publications.

Most recently, he served as editor of the Journal of the Ontario Dental Association.

Dr. Klotz continues to offer his talent as editor of the CSDC (Ontario) Newsletter.

He has written several articles that have appeared in the Journal of the Canadian Dental Association and the Journal of the American Dental Association.

He has served on the executive of the Ontario Society of Paedodontists and is a past president of that organization. He has been chairman of the



Re-organized Editorial Board members examine a copy of the CDA Journal. They are, seated, from the left, Chairman Dr. Alexander MacLeod, and Editor, Clarence Metcalfe. Standing, left to right: Drs. A.D. Sparrow, James D. Grier and Marvin Klotz.

ODA Public Relations Committee and Communications Committee. He was a member of ODA's Editorial Committee and served on the ODA Board of Governors.

Dr. Klotz is a staff member of the University of Toronto's Department of Paedodontics, the Hospital for Sick Children, Toronto, and the Etobicoke General Hospital.

He was named a Fellow of the Royal College of Dentists of Canada in 1967.

Dr. James D. R. Grier is a graduate of the University of Glasgow, Scotland.

He first became acquainted with Canada when he was associated with the Grenfell Association in Newfoundland in 1964, practising general dentistry.

Dr. Grier returned to Scotland in 1965 and practised in Glasgow until 1971. He returned to Canada in 1971 and attended the University of Toronto until 1972, when he received his DDS degree.

He chose the far West of Canada to set up a general practice — in Victoria, B.C.

toria, B.C.

He is a member of the College of Dental Surgeons of British Columbia and served as a member of the Council of the College in 1980-82.

He is also a member of the Victoria and District Dental Society, the Society for Occlusal Studies and the American Equilibration Society.

Dr. Grier served as a panel member in the recent, very lengthy disciplinary hearing of the British Columbia College of Dental Surgeons.

Clarence Metcalfe, the new editor, is a graduate in Journalism from Carleton University in Ottawa, Ont.

He is a native of the Ottawa area and has been a reporter, columnist, specialist in education reporting, editor of a weekly newspaper, trade magazines and an entertainment magazine.

Most recently, he was a member of the editorial staff of The Ottawa Journal, as editor of that newspaper's weekend TV and entertainment magazine.

Mr. Metcalfe joined the CDA staff in early April, 1982, as editor of the

CDA Journal.

Mrs. Doris Goodwin, the new Director of Communications, joined the CDA on February 2, last.

She has been a public relations practitioner for the last 10 years.

A native of Thunder Bay, Ont., she moved to Ottawa in 1973. She studied at the University of Ottawa and Algonquin College and became very involved in the work of national associations, in particular, health associations.

In 1977-78 she was Information Officer for the Canadian Public Health Association, and most recently (1978-83), was Public Relations Co-ordinator for the Canadian Lung Association.

Mrs. Goodwin has been active as a volunteer, in the Canadian Public Relations Society (Ottawa) Inc. She has served as vice-chairman of PR for the PR Committee and has been a member of the Board of Directors and Chairman of Accreditation, and is currently Chairman of the Special Events Committee for the 1984 National Conference of the Society.

Readership Survey

The Journal of the Canadian Dental Association contains an editorial or opinion piece, letters to the editor, six to eight pages of news of interest to the profession across the country, about the same number of pages of submitted articles on subjects of professional import, such as status reports, new methodology, practice management or tax changes, an average of seven pages of original clinical reports, primarily by Canadian authors, and nine to 12 pages of scientific articles, also submissions by Canadian authors. Regular features include a CDA Library article about publications and articles available, two pages of book reviews and approximately the same space devoted to announcements of meetings in Canada and abroad, and to classified advertisements.

All articles and reports of widespread interest and significance are also published in the French language section.

Advertising accounts for about one-third of the available space in the Journal.

An attempt is being made to provide information of personal and professional interest across the broad spectrum of the readership. Whether the Journal is succeeding, or missing the mark in some respects, is something that must be known in order to improve this publication.

Your frank opinions are invited when responding to this questionnaire. Please participate. Do so anonymously, if you prefer.

JOURNAL QUESTIONNAIRE

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If this space is insufficient for your answers, please add additional sheets.

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Chairman's Report

It is a great pleasure to present my first report as Chairman of CFDE. I would like to begin by quoting from an address by Dr. Dale F. Redig, President of the American Fund for Dental Health, our sister organization in the United States. I'm sure his remarks apply equally as well in Canada.

"The history of dentistry in this country is a proud one, springing from the recognition of our early leaders that dental health care is a separate and distinct province in the health field. From that realization has grown, slowly and not without struggle, our present outstanding system of dental education, the development of the various specialties, professional licensure—all organizational hallmarks of a true profession. For the benefits which we and our patients enjoy today, we owe a debt of gratitude to those who have gone before, and an obligation to those who will follow us."

I am honoured indeed to serve as Chairman of the Fund and conscious of the outstanding service given to our profession by my predecessors. I was fortunate to be a Fund Trustee for several years during Dr. James A. Guest's term as Chairman and consequently am keenly aware of his effective leadership in support of dental education and dental health. I shall do my utmost to be a worthy successor.

I am pleased to report that despite an uncertain economy CFDE income from all sources in 1982 rose to over a quarter of a million dollars—an increase of more than 5% over the previous year.

This encouraging achievement was made possible by record totals in personal gifts from doctors of

\$73,410 and contributions from business and industry of \$85,099, including 'in memoriam' gifts in both cases.

We all know the Fund's progress is directly related to the personal support it receives from the members of our profession. Five years ago in 1977, gifts from dentists exceeded those from business and industry by \$4,000. Since then business and industry have obviously responded to the challenge. Let's make sure we as health professionals again provide the leadership properly expected of us in 1983.

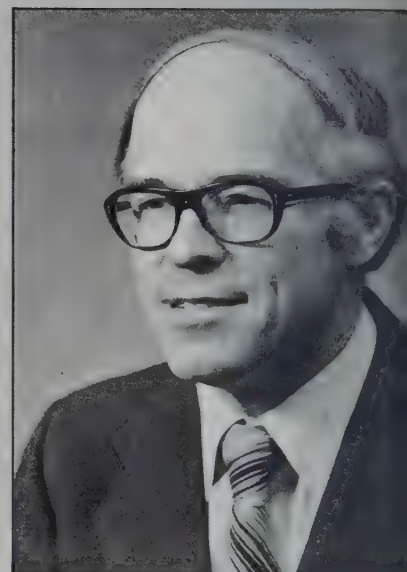
You will note a substantial increase of almost \$12,000 in sundry income in our financial statement. This increase is largely due to repayment of fellowship awards because of unfulfilled teaching commitments.

Support from dental organizations was lower in 1982, largely because the 1981 total included a handsome and most welcome gift of \$5,000 from the Toronto Academy of Dentistry.

Complete details of the Fund's assistance for dentistry are shown in the financial statement. I know you will be as pleased as I am to note the increase of \$25,000, or 22½%, over the previous year.

Your Trustees continue to keep a watchful eye on operating costs and it is with considerable pride that I can report that Management and Fund Raising costs in 1982 were 34.7% of income, less than 1% greater than in 1981. No small accomplishment in these inflationary times. I am confident we will do even better in 1983.

These figures are a clear indication of efficient utilization of Fund resources and I want to recognize the excellent work of our competent and dedicated small professional staff. Both Ingrid Kleysteuber and Murray McDonald have capably served the Fund for more than fifteen years, and while Murray officially retired last June, I am happy to say that he has agreed to continue to work a few days per month as a Consultant.



Previously our annual report included the names of individual dental organizations and companies who generously supported the Fund. This year it was decided would be an improvement if the honour roll of contributors was separated from the annual report and published at a later date, of the advantages of this change that it permits our financial statement to be included in its entirety in a annual report.

As to the future, all of CFDE programs—in research and education—will continue to have as their goal service to the profession and the improvement of Canada's health.

On behalf of my fellow Trustees I want to extend sincere thanks to many individuals, corporations, foundations whose contributions have made possible the good of the Fund in 1982 and years past. We look forward to your continued support in the years ahead.

David K. Peters

David K. Peters, D.D.S.

Rapport du Président

C'est avec grand plaisir que je présente mon premier rapport, à titre de président du FCED. Je débute en une allocution prononcée par Dale F. Redig, président de "American Fund for Dental Health", association soeur aux Etats-Unis. Je suis certain que ses remarques s'appliquent également au Canada.

L'histoire de la médecine dentaire de notre pays nous rend très fière. Elle découle du fait que nos dirigeants ont rapidement reconnu que la santé dentaire constitue une spécialité autonome et distincte, au sein du domaine de la médecine. A partir de cette compréhension, on se sont élaborés lentement. Sans lutter, notre excellent système actuel d'enseignement dentaire, le développement des spécialités, la méthode d'obtention de permis professionnels — des cachets organisationnels — une véritable profession. Nous ressentons une reconnaissance profonde envers ceux qui nous ont précédés, pour tous les avantages que nous jouissons aujourd'hui, ainsi que nos patients; nous nous sentons profondément responsables vis-à-vis de nos successeurs."

Je suis très honoré de servir à titre de président du Fonds et l'excellent service qu'ont rendu à la profession mes prédécesseurs, m'est très présent. J'ai eu la chance de servir au sein du Conseil des directeurs du Fonds pendant plusieurs années, alors que le Dr James Macleod était le président, et je me suis profondément conscient des qualités dont il a fait preuve pour servir l'enseignement et la santé dentaires. Je ferai tout mon possible pour être son digne successeur.

Je suis heureux de pouvoir vous dire que malgré l'incertitude économique, les revenus du FCED pour 1982, en provenance de toutes les sources, ont passé à plus d'un quart

de million de dollars, soit une hausse de plus de 5% comparé à l'année précédente.

Cette réalisation est due aux dons des médecins, qui ont cette année battu tous les records pour atteindre un total de 73.410 \$, ainsi qu'aux contributions provenant du secteur commercial, qui se sont élevées à 85.099 \$, y compris certaines contributions "in memoriam" versées par ces deux groupes.

Nous savons tous que les progrès réalisés par le Fonds s'enchaînent directement à l'appui personnel qu'il reçoit de la part des membres de la profession. Il y a cinq ans, en 1977, les contributions versées par les dentistes dépassaient de 4.000 \$ celles provenant du secteur commercial. Celui-ci a, de toute évidence, répondu au défi posé. Nous devons réaliser les espoirs de tous et veiller à ce que nous, les professionnels du domaine de la santé, nous placions à nouveau en tête de file pour 1983.

Vous noterez, dans le rapport financier, une hausse de quelque 12.000 \$ pour les revenus divers. Cette augmentation provient surtout du remboursement de certaines bourses en raison d'engagements non respectés.

L'appui provenant d'associations dentaires a diminué en 1982, surtout en raison du fait qu'en 1981, le total avait été atteint grâce à un don aussi généreux qu'opportun, fait par l'Académie des dentistes de Toronto.

Le rapport financier présente des renseignements détaillés sur l'appui qu'a apporté le Fonds à la médecine dentaire. Je sais que vous vous réjouirez comme moi de constater que la hausse, comparé à l'année dernière, s'élève à 25.000 \$, soit 22 1/2 %.

Les fiduciaires continuent à surveiller de près les frais d'exploitation et c'est avec fierté que je vous annonce que les frais de gestion et de recueil de fonds pour 1982, ne constituait que 34,7% des revenus, une hausse de moins d'un pour cent comparé à 1981. Une réalisation

plutôt louable, vu ces temps d'inflation! Et je suis persuadé que nous obtiendrons des résultats même supérieurs pour 1983.

Ces chiffres constituent une indication très nette de l'efficacité avec laquelle le Fonds emploie ses ressources et je désire complimenter notre petite équipe professionnelle pour sa compétence, son dévouement et pour les excellents résultats qu'elle obtient. Ingrid Kleysteuber et Murray McDonald ont tous deux servi le Fonds avec compétence depuis une quinzaine d'années; bien que Murray ait officiellement pris sa retraite, je suis heureux de pouvoir dire qu'il a consenti à continuer à travailler quelques jours par mois à titre de consultant.

Dans le passé, notre rapport annuel publiait les noms des particuliers, des associations dentaires et des compagnies qui contribuaient généreusement au FCED. Nous avons décidé cette année de séparer le tableau d'honneur de donateurs, du rapport annuel, et de le publier à une date ultérieure. Ceci nous permet de publier le rapport financier complet dans le rapport annuel.

Quant à l'avenir, tous les programmes du FCED, qu'il s'agisse de recherche ou d'enseignement, continueront à se diriger vers l'expansion des services à la profession et vers l'amélioration de la santé dentaire au Canada.

Au nom de mes confrères fiduciaires, je désire exprimer ma profonde gratitude vis-à-vis des nombreux particuliers, compagnies et fondations, grâce auxquels le Fonds a pu faire un excellent travail en 1982 et pendant les années précédentes. Et, cela va sans dire, nous comptons sur votre appui continu pour l'avenir.



David K. Peters, D.D.S.

Twenty years later / Vingt ans après

CFDE's first annual report was for the period from October 22, 1962, the date of inception, to December 31, 1963.

Included in the report was the following comment by the Fund's founding Chairman, Dr. James D. McLean:

"It seems reasonable to conclude that the Canadian Fund for Dental Education has been launched successfully. This, it is hoped, will encourage expanding support and development in succeeding years. From this successful start, the Trustees are most anxious to award at least one grant early in 1964, so that the purposes for which the Fund was established may be begun to be fulfilled at the earliest possible opportunity."

The Trustees' hopes were indeed realized – teacher training grants totalling \$4,745 were made in 1964.

From this modest beginning twenty years ago, the Canadian Fund for Dental Education has grown and matured into an organization which has provided over a million and a half dollars for dental education and research.

Over the years the Fund has developed a number of ongoing programs that account for perhaps 75% of its total aid for dentistry. These include: Unrestricted grants to dental schools, research and teaching conferences, teacher training fellowships for dentists, students' conferences and table clinic programs.

At the same time a substantial amount (\$400,000) has been available for the Trustees to finance a great many worthwhile projects,

some on a one shot only basis and others over a period of two or three years. Examples in this category are: Graduate and undergraduate accreditation surveys in dental schools, several ACFD projects, three preventive dentistry conferences, a special research project at the University of Toronto (funded by grants from the Hospital for Sick Children Foundation).

Obviously the Fund has made significant progress towards its goal of service to the profession and the improvement of the nation's dental health. Much more remains to be done and, with the continued support of our many friends, will be done.

Le FCED publia son premier rapport annuel pour la période du 22 octobre 1962, date de sa constitution, jusqu'au 31 décembre 1963.

Le Dr James D. McLean, président fondateur du Fonds, présenta dans ce rapport les commentaires suivants:

"Il paraît raisonnable de conclure que le lancement du Fonds canadien pour l'enseignement dentaire est une réussite. Nous espérons que ceci encouragera l'appui apporté au Fonds et son développement au cours des prochaines années. A partir de ces heureux débuts, les fiduciaires sont désireux d'accorder au moins une subvention au début de l'année 1964, afin de commencer, le plus tôt possible, à satisfaire aux objectifs en vue desquels le Fonds a été créé."

Les espoirs dont faisaient preuve les fiduciaires ont été largement satisfaits puisque les bourses accordées pour la formation des enseignants se sont élevées, en 1964, à 4.745 \$.

A partir de ces modestes débuts il y a vingt ans, le Fonds canadien pour l'enseignement dentaire est devenu un organisme qui a procuré plus d'un million et demi de dollars à

l'enseignement et à la recherche dentaires.

Au cours des années, le FCED a élaboré de nombreux programmes qui continuent à exister et qui touchent quelque 75% du soutien financier fourni par le FCED à la médecine dentaire, notamment des subventions illimitées aux écoles dentaires, des conférences de recherche, de l'enseignement, des subventions octroyées aux dentistes désireux d'obtenir une formation d'enseignement, des congrès d'étudiants, que les programmes de clinique table.

Les fiduciaires ont également à leur disposition une somme considérable (400.000 \$), destinée à financer un grand nombre de projets de marque, quelquefois sur la base d'une contribution unique, quelquefois de contributions échelonnées sur une période de deux ou trois ans. Dans le cadre de ces subventions se situent les enquêtes relatives à l'accréditation des diplômés et des étudiants, plusieurs projets de l'AFDC, trois congrès de médecine dentaire préventive, un projet spécial de recherche à l'Université de Toronto (financé par des fonds venant de la Fondation de l'Heure des enfants malades).

Le Fonds a de toute évidence fait des progrès considérables dans la direction de son objectif, autre dit en direction du service à la profession et de l'amélioration de la santé dentaire dans le pays. Il y a beaucoup à faire et, grâce à l'appui sur lequel nous comptons, nous serons à la hauteur de notre tâche.

Canadian Fund for Dental Education

Fonds Canadien pour l'enseignement dentaire

STATEMENT OF FINANCIAL ACTIVITIES ÉTAT DES ACTIVITÉS FINANCIÈRES POUR

ENDED DECEMBER 31, 1982
FINIE TERMINÉE LE 31 DÉCEMBRE 1982

	1982	1981
Revenue/Revenus		
Support receipts/Contributions		
Dental profession/profession dentaire	\$ 72,115	\$ 68,136
Dental organizations/organismes dentaires	11,665	17,561
Dental hygienists/hygiénistes dentaires	1,348	2,325
Business and industry/affaires et industries	84,834	83,114
In memoriam	7,935	9,810
Sundry/divers	20,111	8,777
	<u>198,008</u>	<u>189,723</u>
Investment income/Revenus de placements	51,247	49,255
	<u>249,255</u>	<u>238,978</u>
Capital expenditures Dépenses pour les divers secteurs d'activité	247,233	214,472
	<u>247,233</u>	<u>214,472</u>
EXCESS OF REVENUE OVER EXPENDITURES REVENUS EN SUS DES DÉPENSES	2,022	24,506
Contribution from Elgin Dental Society Dotation de la Société dentaire Elgin	—	1,000
Contribution from Toronto Academy of Dentistry – Crown and Bridge Study Club Dotation de l'Académie des dentistes de Toronto – Club d'étude des ponts et couronnes	3,000	—
ASSETS ON DEPOSIT AND INVESTED, BEGINNING OF YEAR BONDS EN DÉPÔT ET INVESTISSEMENTS, COMMENCEMENT DE L'ANNÉE	520,251	494,745
ASSETS ON DEPOSIT AND INVESTED, END OF YEAR BONDS EN DÉPÔT ET INVESTISSEMENTS, FIN DE L'ANNÉE	<u>\$525,273</u>	<u>\$520,251</u>
Assets are allocated as follows: Les avoirs suivants sont alloués comme suit:		
General funds/Fonds généraux		
— allocated for special purposes/alloués à des buts spéciaux	\$ 3,129	\$ 22,875
— unallocated/non alloués	159,587	137,819
	<u>162,716</u>	<u>160,694</u>
Investment funds/Fonds de dotation		
Elgin Dental Society/Société dentaire Elgin	1,000	1,000
Canadian Dental Hygienists' Association Association canadienne des hygiénistes dentaires	3,500	3,500
War Memorial Fund Fonds à la mémoire des morts de la guerre	10,614	10,614
Toronto Academy of Dentistry – Crown & Bridge Study Club Académie des dentistes de Toronto – Club d'étude des ponts et couronnes	13,000	10,000
Norme E. MacLachlan	100,000	100,000
Capital funds/Fonds de capital	<u>234,443</u>	<u>234,443</u>
	<u>362,557</u>	<u>359,557</u>
	<u>\$525,273</u>	<u>\$520,251</u>

Canadian Fund for Dental Education

Fonds Canadien pour l'enseignement dentaire

SCHEDULE OF PROGRAM SERVICES LISTE DES PROGRAMMES

GRANTS AND AWARDS BOURSES ET SUBVENTIONS

YEAR ENDED DECEMBER 31, 1982
ANNÉE TERMINÉE LE 31 DÉCEMBRE 1982

	1982	1981
Teacher Training Fellowship Awards Bourses pour la formation des enseignants	\$ 59,849	\$ 51,000
Other Fellowship Awards Autres bourses	4,550	1,000
Unrestricted Grants to Dental Schools Subventions illimitées aux écoles dentaires	15,000	15,000
Biennial Conference on Dental Research and Education Congrès biennal sur la recherche et l'enseignement dentaires	12,500	12,500
Annual Students Conference Congrès annuel des étudiants	8,051	8,051
Annual Teaching Conference Congrès annuel d'enseignement	6,251	6,251
Annual Student Table Clinic Program Programme annuel de clinique sur table	4,366	4,366
Lorne E. MacLachlan Endowment Fund Fonds de dotation Lorne E. MacLachlan	9,625	9,625
CFDE Scholarships for Dental Students Bourses du FCED pour les étudiants dentaires	4,750	4,750
CDA Interview Validation Study Etude sur la validité des entrevues menée par l'ADC	4,451	4,451
Ontario Dental Hygienists' Association Projects Projets de l'Association des hygiénistes dentaires de l'Ontario	2,000	2,000
Congress on Dental Care for the Handicapped Congrès sur les soins dentaires pour personnes handicapées	1,000	1,000
Conference on Dental Hygiene Research Congrès sur la recherche en hygiène dentaire	3,000	3,000
Dental Hygiene Educators Workshop Atelier pour les enseignants en hygiène dentaire	500	500
University of Toronto Research Project Projet de recherche de l'Université de Toronto	—	3,000
Dentistry for Children Congress Congrès sur la médecine dentaire infantile	—	1,000
Grant Re Funding Priorities (Ad Hoc Committee) Subvention pour l'étude des priorités de financement (comité ad hoc)	—	1,000
	<u>\$135,893</u>	<u>\$110,000</u>

Canadian Fund for Dental Education

Fonds Canadien pour l'enseignement dentaire

ANALYSIS OF FUNCTIONAL EXPENDITURES

ANALYSE DES FRAIS POUR LES DIVERS SECTEURS D'ACTIVITÉ

PERIOD ENDED DECEMBER 31, 1982
PÉRIODE TERMINÉE LE 31 DÉCEMBRE 1982

	Program Services Programmes	Supporting Services Services de soutien			Total Expenses Frais totaux	
	General Programs Programmes généraux	Management and General Gestion et général	Fund Raising Recueil de fonds	Total	1982	1981
Grants and awards (see schedule) Bourses et subventions (voir la liste)	\$135,893				\$135,893	\$110,917
Operating Expenses Frais d'exploitation						
Salaries and related expenses Salaires et frais connexes	16,497	\$16,497	\$32,995	\$49,492	65,989	58,362
Printing and promotion Imprimerie et promotion	1,715	3,430	12,004	15,434	17,149	13,641
Office supplies and expenses Fournitures et frais de bureau	552	2,485	2,486	4,971	5,523	4,558
Office rental Loyer de bureau	2,149	3,224	3,223	6,447	8,596	7,659
Staff travel Déplacement du personnel	828	828	1,655	2,483	3,311	5,350
Trustee and advisory committee travel Déplacement des fiduciaires et du comité consultatif	2,058	5,351	823	6,174	8,232	10,365
Professional services Services professionnels	—	1,900	—	1,900	1,900	3,620
Investigating fund raising techniques Etude des techniques de recueil de fonds	—	—	640	640	640	—
	23,799	33,715	53,826	87,541	111,340	103,555
	\$159,692	\$33,715	\$53,826	\$87,541	\$247,233	\$214,472

Uses of Support and Revenue Emploi des fonds de soutien et revenus	\$252,255
Programs/Vérificateurs:	
Program Commitments/Programmes (1982 - 63.3%, 1983 - 2.0%)	65.3%
Fund Raising/Recueil de fonds	21.3%
Management and General/Gestion et général	13.4%

by Riddell
Chartered Accountants
and Comptables

Canadian Fund for Dental Education Fonds Canadien pour l'enseignement dentaire

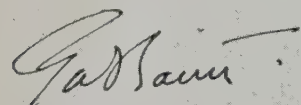
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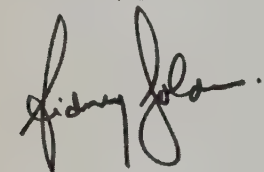
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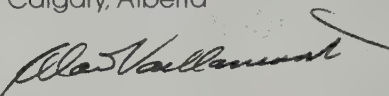
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Alain Vaillancourt, D.D.S.
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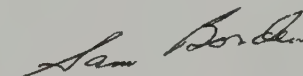
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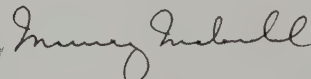
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Ingrid Kleysteuber
Executive Secretary/Secrétaire Exécutif



Murray McDonald
Consultant

Dentsply Canada, L.D. Caulk and Amalgamated Dental have contributed funds for printing this report.

Les Compagnies Dentsply Canada, L.D. Caulk et Amalgamated Dental ont contribué des fonds destinés à imprimer ce rapport.

Current state of the art as it applies to the use of composite resins

On October 13-14, 1982, an International Symposium on Posterior Composite Resins was held in Chapel Hill, North Carolina and was co-sponsored by the Dental Research Center at the University of North Carolina and the L.D. Caulk Company. The purpose of the symposium was: to examine the current state of the art as it applies to the use of composite resins for the restoration of Class I and II carious lesions, to evaluate and enumerate the inherent advantages and disadvantages to their use, to pinpoint the areas of research directed to overcoming problems associated with composites and, finally, to provide a blueprint for future needs in research to make resins the material of choice for the posterior restoration.

Dr. J.W. Brown, Assistant Professor, Department of Restorative Dentistry, Faculty of Dentistry, University of Toronto, attended the symposium and prepared the following synopsis of the proceedings.

Advantages

The following constitute generally recognized and accepted advantages of composite resins.

1. Esthetics

In our cosmetic-conscious society there is an increasing demand for the enhanced natural appearance of posterior restorations offered by composite resins.

2. Low Thermal Conductivity

As compared to amalgam, resins possess a low thermal conductivity and thus the need for thermal insulating bases is eliminated and post insertion thermal response is diminished.

3. No Galvanism

Resins offer no potential for galvanism and its known deleterious effects of the pulp.

4. No Mercury Toxicity

Resins contain no mercury with its related potential for mercury toxicity effects on patient, assistant or dentist.

5. Mechanical Bondability

It is well documented that resins possess the capacity for direct bondability to tooth enamel by mechanical means and the effects which accrue from its use, namely the greatly reduced potential for microleakage. Furthermore,

*By Dr. J.W. Brown
Assistant Professor
Restorative Dentistry
Faculty of Dentistry
University of Toronto*

Simonsen, at the University of Connecticut has shown that direct enamel bonding can enhance structural integrity. In laboratory experiments, he prepared young caries-free bicuspid for restorations and then divided them into four groups:

- i) unrestored
- ii) restored with amalgam
- iii) restored with composite, and
- iv) enamel etched, bonding resin and restored with composite.

The cusps were then subjected to fracture loads. The bonded resin restorations required twice the fracture load compared to the other groups, thus demonstrating enhanced structural integrity.

6. Material Shortages

The use of resins is probably not as dependent upon chemical material shortages as amalgam which is dependent upon possi-

ble future shortages of silver and mercury. In addition, history has demonstrated the relative cost stability of resin compared to that of silver or mercury.

Disadvantages

The following constitutes a list of recognized disadvantages to the use of composite resins and is not a ranking in order of importance.

1. Microleakage

Amalgam offers a self-sealing mechanism at the amalgam-tooth interface through the eventual build-up of corrosive products which offer impedance to the ingress of micro-organisms. At present, only the polyacrylic acid systems have a documented potential for true chemical adhesion to tooth structure and these materials are not suitable for functional restorations. Since conventional composite systems offer no self-sealing mechanism and lack true chemical adhesion, microleakage can only be counteracted by etch-bond procedures and the result is only a mechanical bond. Enamel in the cervical region of the tooth is considered to be prismless and thus not amenable to effective etch-bone procedures; therefore, microleakage remains a problem at these cavo surface margins. Furthermore, unlike silicates, the addition of fluoride to inert resin systems offers no potential for a slow controlled release of fluoride ions with their known effect on the reduction of secondary caries.

2. Placement Time

Considerably more time is required for the proper placement of composite resins under near ideal clinical conditions in order

Continued on next page

to assure reasonable success as compared to amalgam.

3. Pulpal Irritation

Amalgam is essentially non-irritating in terms of pulpal response but the same is not true for resins. All exposed dentin on the pulpal floor and axial walls of proximal boxes must be adequately protected by a layer of calcium hydroxide.

4. Technique Sensitivity

i) Porosities

All resins contain a certain degree of porosity. Porosities can lead to decreased physical properties, such as water absorption and decreased resistance to wear and to increased surface stain.

ii) Depth of Cure

The depth of cure with ultraviolet or visible light cured resin systems may be inadequate for large restorations without resorting to a layering technique.

iii) Finishing Techniques

The finishing techniques for composites are many and varied but none is capable of providing an optimal surface layer. Certainly the techniques are not as well refined or as well accepted as for amalgam.

iv) Marginal Adaptation

Good marginal adaptation is particularly critical with our non-adhesive resin systems and there is considerable difficulty in assessing this feature because of the translucency of the resin, particularly with the microfills.

5. Properties

i) Modulus of Elasticity

It would be better if composites possessed a higher modulus in order to reduce deformation under stress which can lead to a breakdown of mechanical or adhesive bonding.

ii) Coefficient of Thermal Expansion

The coefficient is higher than amalgams and composites would perform better if it were closer to tooth structure.

iii) Colour Stability

Colour stability is a question mark on all resin systems although visible light curing may be an improvement in this regard.

iv) Radiopacity

Most commercially available composite resins have insufficient radiopacity. Radiopacity is important for two reasons:

1) For recognition of proper proximal contours, and

2) For the detection of caries it must be possible to evaluate inner contour.

v) Sensitivity to Chemical Degradation

In the average diet, there are chemicals, e.g. ethanol, acetic acid, etc., that can and do act as plasticizers or softeners on the resin matrix and this contributes to accelerated wear.

vi) Wear

At present, the single major deficiency in composite resins is the change in anatomical contour as a result of wear.

Types of Wear

A. Conventional macrofills (average particle size 10-20 μ).

With these large particle size filler composites (e.g. Adaptic), there is a consistent, progressive and uniform loss of contour. It is analogous to observing the water level in a tin can, perforated on the bottom, gradually sinking into the container. Composite resins use silane as a coupling agent between the inorganic ceramic particles and the resin matrix and this silane coupling system has been referred to as the "Achilles heel" of composite resins. Failure of the silane bonding system can lead to "plucking" of the ceramic particles from the resin surface resulting in accelerated wear. Current research is being directed to improve this coupling system and initial results with a new chemical are encouraging.

B. Microfills (average particle size 0.5 μ). Composites with submicron particle sizes (e.g. Kulzer Durafil) demonstrate a different pattern of wear. The loss of anatomical contour at the cavo surface margin is less than that of conventional composites but at the marginal ridge and at centric holding stops on the occlusal surface the wear is more pronounced.

Current developments in wear

Current research is being directed to manufacturing filler particles more uniform in size and shape thus imparting a greater homogeneity to the composite. In addition, methods are being investigated that would place filler particles in such close proximity so as to expose only .1 to .2 μ of intervening resin matrix. Under such conditions, the resin matrix is not readily available for abrasion so it is expected that the composite would be more wear resistant.

Other conclusions related to wear

1. Hard ceramic particles (especially above 5-8 μ) decrease resistance to wear.
2. Composites with submicron size particles are prone to:
 - a) Localized patterns of wear
 - b) Brittle fracture
3. Decreased porosity enhances resistance to wear and above all other factors increasing porosity appears to have the most potent effect on increasing wear. Porosities can be a result of the manufacturing process, from spatulation, or from insertion techniques. Wilder, at the University of North Carolina, demonstrated the effect of porosity on wear in clinical trials which compared Nuvafile with Nuvafile PA, the newer visible light-cured version. Nuvafile PA demonstrated superior resistance to wear. Investigation revealed Nuvafile contained fewer porosities because of a different manufacturing process and i

was concluded that its inferior wear resistance was due to these porosities.

- Photocured resins are more wear resistant than autocured.

Future requirements

In order for composite resins to become the material of choice for the restoration of Class I and Class II posterior carious lesions, the following requirements may have to be realized.

- Chemical Adhesion**

True adhesion, either by primary or secondary bonding to tooth structure, would alter conventional cavity preparations by eliminating the need for mechanical retention. It would also assure greater permanency and esthetics by eliminating micro-leakage.

- Improved Properties**

- Superior wear resistance
- Greater radiopacity
- Anti-cariogenicity
- Hydrophobic resin formulations
- Colour stability

- Improved Delivery Systems**

We need materials and techniques which are as foolproof as possible to allow for a greater predictability of posterior resin restorations.

- Improved methods for *in vitro* tests and *in vitro* evaluations.

Conclusion

The vast majority of Class I and Class II posterior carious lesions are restored with amalgam or cast metal. Posterior composites are competing for a position, not as an amalgam substitute, but as a worthwhile third alternative. The facts are that they have yet to gain ADA acceptance for posterior restorations and not one speaker at the symposium was prepared to advocate their routine use. The future appears promising for the continued improvement of posterior composite resins. The prudent practitioner should carefully monitor future advancements and the proven reliability of posterior composites before embracing this treatment modality.

Motrin[®]

(ibuprofen) tablets

Product Information

Action: Ibuprofen has demonstrated anti-inflammatory, analgesic and antipyretic activity in animal studies designed to specifically demonstrate these effects. Ibuprofen has no demonstrable glucocorticoid effect.

Following a single 200 mg dose of ibuprofen in humans, useful blood levels were demonstrable in 45 minutes and still present in six hours but at barely detectable levels. Peak levels occurred at approximately one hour after ingestion. Levels were lower when taken in conjunction with food.

Ibuprofen is rapidly metabolized and eliminated in the urine. The excretion of ibuprofen is virtually complete 24 hours after the last dose. The serum half-life of ibuprofen is 1.8 to 2 hours. There is no evidence of drug accumulation or enzyme induction.

Ibuprofen has been found to be less likely to cause gastro-intestinal bleeding in doses usually used than is acetylsalicylic acid.

Clinical trials in man have shown activity of a dose of 1200-1800 mg of ibuprofen daily to be similar to that of 3.6 grams of acetylsalicylic acid daily.

Indications and Clinical Uses: Motrin (ibuprofen) is indicated for the treatment of rheumatoid arthritis and osteoarthritis. Motrin is also indicated for the relief of mild to moderate pain accompanied by inflammation in conditions such as musculo-skeletal trauma and post-dental extraction. Motrin is also indicated for the relief of pain associated with dysmenorrhea.

Contraindications: Motrin (ibuprofen) should not be used in patients who have previously exhibited hypersensitivity to it, or in individuals with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to acetylsalicylic acid or other nonsteroidal anti-inflammatory agents. (see WARNINGS).

Motrin should not be used during pregnancy, in nursing mothers or in pediatric patients because its safety under these conditions has not been established.

Warnings: Anaphylactoid reactions have occurred in patients with known A.S.A. hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported in patients receiving Motrin (ibuprofen). Peptic ulceration, perforation, or severe gastrointestinal bleeding can have a fatal outcome, and although few such reports have been received with Motrin, a cause and effect relationship has not been established. Motrin should be given under close supervision to patients with a history of upper gastro-intestinal tract disease.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in colour vision have been reported. If a patient develops such complaints while receiving Motrin (ibuprofen), the drug should be discontinued and the patient should have an ophthalmologic examination. Fluid retention and edema have been reported in association with Motrin; therefore, the drug should be used with caution in patients with a history of cardiac decompensation or renal disease.

Motrin, like other nonsteroidal anti-inflammatory agents, can inhibit platelet aggregation but the effect is quantitatively less and of shorter duration than that seen with acetylsalicylic acid. Motrin has been shown to prolong bleeding time (but within the normal range) in normal subjects. Because this prolonged bleeding effect may be exaggerated in patients with underlying hemostatic defects, Motrin should be used with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients on Motrin should be cautioned to report to their physicians signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

When Motrin is added to the treatment program of patients who have been on prolonged corticosteroid therapy, and it is decided to discontinue this therapy, the corticosteroid should be tapered slowly to avoid exacerbation of disease or adrenal insufficiency.

Aseptic meningitis has been reported in connection with Motrin therapy in patients with systemic lupus erythematosus. Such patients may also develop hypersensitivity reactions to Motrin such as fever, rash or abnormal liver function more often than those with other disorders. Caution should therefore be exercised when considering Motrin therapy for patients with systemic lupus erythematosus.

Drug Interactions

Coumarin-type anticoagulants: Several short-term controlled studies failed to show that Motrin significantly affected prothrombin times or a variety of other clotting factors when administered to individuals on coumarin-type anticoagulants. However, because bleeding has been reported when Motrin and other nonsteroidal anti-inflammatory agents have been administered to patients on coumarin-type anticoagulants, the physician should be cautious when administering Motrin to patients on anticoagulants.

A.S.A.: Animal studies show that A.S.A. given with nonsteroidal anti-inflammatory agents including Motrin yields a net decrease in anti-inflammatory activity with lowered blood levels of the non-A.S.A. drug. Single dose bioavailability studies in normal volunteers have failed to show an effect of A.S.A. on Motrin blood levels. Correlative clinical studies have not been done.

Adverse Reactions: The following adverse reactions have been noted in patients treated with Motrin (ibuprofen):

Note: Reactions listed below under Causal Relationship Unknown are those which occurred under circumstances where a causal relationship could not be established. However, in these rarely reported events, the possibility of a relationship to Motrin cannot be excluded. **Gastrointestinal:** The adverse reactions most frequently seen with Motrin therapy involve the gastrointestinal system.

Incidence 3 to 9%: nausea, epigastric pain, heartburn

Incidence 1 to 3%: diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the gastrointestinal tract (bloating or flatulence)

Incidence less than 1%: gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, hepatitis, jaundice, abnormal liver function (SGOT, serum bilirubin and alkaline phosphatase)

Central Nervous System

Incidence 3 to 9%: dizziness

Incidence 1 to 3%: headache, nervousness

Incidence less than 1%: depression, insomnia

Causal relationship unknown: paresthesias, hallucinations, dream abnormalities

Dermatologic

Incidence 3 to 9%: rash (including maculopapular type)

Incidence 1 to 3%: pruritus

Incidence less than 1%: vesiculobullous eruptions, urticaria, erythema multiforme

Causal relationship unknown: alopecia, Stevens-Johnson syndrome

Special Senses

Incidence 1 to 3%: tinnitus

Incidence less than 1%: amblyopia (blurred and/or diminished vision, scotomata and/or changes in colour vision). Any patient with eye complaints during Motrin therapy should have an ophthalmological examination (see PRECAUTIONS).

Causal relationship unknown: conjunctivitis, diplopia, optic neuritis

Metabolic

Incidence 1 to 3%: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Hematologic

Incidence less than 1%: leukopenia and decreases in hemoglobin and hematocrit

Causal relationship unknown: hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes (e.g. purpura, epistaxis, hematuria, menorrhagia)

Cardiovascular

Incidence less than 1%: congestive heart failure in patients with marginal cardiac function, elevated blood pressure

Causal relationship unknown: arrhythmias (sinus tachycardia, sinus bradycardia, palpitations)

Allergic

Incidence less than 1%: anaphylaxis (see CONTRAINDICATIONS)

Causal relationship unknown: fever, serum sickness, lupus erythematosus syndrome

Endocrine

Causal relationship unknown: gynecomastia, hypoglycemic reaction

Renal

Causal relationship unknown: decreased creatinine clearance, polyuria, azotemia

Symptoms and Treatment of Overdosage: A nineteen month old child weighing 12 kg ingested from 2800 to 4000 mg of Motrin (ibuprofen) and presented with apnea, cyanosis and responded only to painful stimuli. Oxygen and parenteral fluids were given and at 12 hours she appeared completely recovered. Two other children (10 kg each) ingested 1200 mg of Motrin each and there were no signs of acute intoxication or late sequelae. A 19 year old male who had ingested 8000 mg of Motrin reported dizziness, and nystagmus was noted. He recovered with no reported sequelae after parenteral hydration and three days' bed rest.

In cases of acute overdosage, the stomach should be emptied by vomiting or lavage, though little drug will likely be recovered if more than an hour has elapsed since ingestion. Because the drug is acidic and is excreted in the urine, it is theoretically beneficial to administer alkali and induce diuresis.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis. The initial daily dosage in adults is 1200 mg divided into 3 or 4 equal doses. Depending on the therapeutic response, the dose may be adjusted downward or upward. The daily dosage should not exceed 2400 mg.

Maintenance therapy, once maximum response is obtained, will range from 800 to 1200 mg per day.

Mild to moderate pain accompanied with inflammation, dysmenorrhea: 400 mg repeated as required every 4 to 6 hours. The daily dosage should not exceed 2400 mg.

Children: Due to the lack of clinical experience, ibuprofen is not indicated for use in children under 12 years of age.

Supplied: 200 mg (yellow), 300 mg (white), 400 mg (orange) sugar-coated tablets and 600 mg (peach) film-coated tablets in bottles of 100 and 1000.

Product monograph available on request. CE 1542 IC

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Briefly —

The Prince Edward Island Dental Association was recently approached by provincial government officials about legalizing denturism in that province.

According to Dr. R. D. Wenn, Secretary-Treasurer of the Association, Prince Edward Island is the only province where denturism is not legal.

The first meeting between the PEI Association and government officials took place in late February.

"More discussions will be held," said Dr. Wenn.

♦♦♦♦♦♦♦♦

Dr. Paul Jean was elected President of the Association of Prosthodontists of Canada at the annual meeting held in Montréal.

President-elect is Dr. Paul Sills and the new Vice-President is Dr. Jim Anderson. Dr. Brock Love is the Secretary-Treasurer.

Dr. Shauket Chaney, Dr. John Blomfield, Dr. Bruce Graham and Dr. Alex Bowman, were elected Councillors.

The next annual meeting of the Association is scheduled for Vancouver on September 24 and 25. The program chairman is Dr. D. Donaldson of the Faculty of Dentistry, University of British Columbia.

♦♦♦♦♦♦♦♦

The Health League of Canada in its publication, *Health News Digest*, reports that the International Agency for Research on Cancer, after reviewing 18 investigations, has found no link between fluoridation and cancer.

The Agency reached the following firm conclusion after its review:

"Variations geographically and in time in the fluoride content of water supplies provide no evidence of an association between fluoride ingestion and mortality from cancer in humans."



Dr. R. Bruce Ross

Dr. R. Bruce Ross, an orthodontist at Toronto's Hospital For Sick Children is the new president of the Canadian Craniofacial Society.

This is the first time in the six years of the Society's operation that a dentist has been named president. Dr. Ross will serve for two years.

The Canadian Craniofacial Society is a multi-discipline body dedicated to "the investigation and treatment of patients, mainly children with badly deformed faces," said Dr. Ross.

The major concern of the Society has been children with cleft lip and palate and the other congenital facial anomalies associated with these problems.

Dr. Ross is among 30 dentists, mostly oral surgeons and orthodontists who belong to the society. The Society presently has about 100 members, including plastic surgeons, speech pathologists, ophthalmologists, nurses, social workers, psychiatrists, as well as general dentists.

♦♦♦♦♦♦♦♦

The value of one of the fellowships granted yearly by the Canadian Fund for Dental Education has increased.

Fund chairman, Dr. David K. Peters, said that starting this year, "the value of CFDE's fellowship for an existent university dental teachers will be increased to \$2,500."

The fellowship, which is given to an academic already teaching in one of Canada's dental schools had been set

at \$2,000 for the past several years. It was introduced in 1971 and had a value of \$1,500 at that time.

The purpose of the award is to enable an established teacher at one of Canada's 10 dental schools to refresh and extend his or her knowledge in any field of dental education and research.

The award is sponsored by Warner Lambert Canada Inc.

Full particulars of the fellowship may be obtained from the dean at each dental school or from CFDE, Suite 205, 44 Eglinton Ave. W. Toronto, Ont. M4R 1A1.

♦♦♦♦♦♦♦♦

The Department of Health and Welfare recently announced \$1,469,138 in federal contributions for 26 health projects in Québec.

Among these projects is a contribution of \$17,763 to the Community Health Department of the Ste-Justine Hospital in Montréal. The funds will be used to produce health education documents on dental health and the physically handicapped child.

♦♦♦♦♦♦♦♦

Representatives from each provincial dental licensing board in Canada met for the first time late last year.

The Conference of Dental Licensing Boards of Canada met in Montréal on December 10, 1982, to discuss provincial dental acts and other items of concern.

"This is the first time this group has ever held an official meeting," said Dr. Ken Pownall, Registrar of the Royal College of Dental Surgeons of Ontario.

Attendees included presidents and/or registrars from each provincial licensing body.

The host of this inaugural meeting was the Ordre des dentistes du Québec and plans have been made to make the Conference an annual event.

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Dr. Gordon Perlmutter, a Toronto dentist, was recently elected as International President of the Alpha Omega International Dental Fraternity.



Dr. Gordon Perlmutter

Dr. Perlmutter is a general practitioner and a clinical instructor at the faculty of Dentistry, University of Toronto.

He has participated in and served the Fraternity for 35 years. He was also elected in 1982 as a Fellow of the International College of Dentists, and has served as president of the North Toronto District Dental Society and of the Crown and Bridge Study Club of the Toronto Academy of Dentistry.) He is also a member of CDA's Committee on Dental Education.

Dr. Perlmutter graduated from the University of Toronto in 1950.

The Alpha Omega Fraternity has 8,000 members worldwide and is dedicated to dental health, research and dental education.

♦♦♦♦♦♦♦♦

The College of Dental Surgeons of Saskatchewan will be holding its annual convention April 28-30.

The Convention will take place in Prince Albert.

Keynote speakers for the occasion will be Dr. John Ingle and R. K. House.

♦♦♦♦♦♦♦♦

The 1982 Pacific Northwest Regional IADR Meeting, sponsored by the faculties of dentistry of British Columbia, Washington and Oregon, was held at the Center for Research in Oral Biology at the University of Washington on November 18 and 19, last.

The program consisted of 30 high

quality presentations. Sixteen members of the UBC Faculty of Dentistry staff and faculty attended, and they contributed eight of the presentations.

Because of the enthusiasm displayed by the participants for this type of regional inter-institutional gathering, the continuation of the annual sessions on a rotational basis was strongly recommended. As a result, the 1983 meeting is scheduled to be held at the University of Oregon.

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A Canadian dentist, Dr. Ronald F. Ebdon of Chilliwack B.C. was recently presented with a Fellowship of the American Endodontic Society.

Dr. Ebdon graduated from the University of Alberta in 1965 and has been in all executive positions with the Fraser Valley Dental Society. For three years he was a board examiner for the College of Dental Surgeons of British Columbia.

Dr. Ebdon is in private practice in Chilliwack B.C.

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Call the President

For those who have yet to take advantage of the provision, CDA President Dr. William R. Thompson will be accessible at the other end of your telephone on two more occasions in the near future.

On April 19 or June 7, Dr. Thompson invites calls to express opinions, recommend improvements, or from those seeking updates on specific issues.

The President will accept collect calls to (613) 523-1770 on those days, between 8.30 a.m. and 4.30 p.m. (Eastern Standard — or, on June 7, Eastern Daylight — Time).

The only guidelines callers are asked to observe is that they confine their remarks to one issue and limit the time to five minutes. The reason is to allow as many calls as possible.

♦♦♦♦♦♦♦♦

Patients who suffer from severe fear of the dentist can now get help to overcome their phobia.

A hospital-based dental phobia clinic, believed to be the only one of its kind in the United States, perhaps in North America, is helping patients master their fears of the dentist and of dental treatment.

The clinic, at Mount Sinai Hospital in New York City, is spearheaded by Dr. J. Gordon Rubin, associate clinical professor in the Mount Sinai School of Medicine and associate attending dentist at the hospital.

The clinic has been open for three years and has treated more than 100 patients with dental fears. Patients must be 16 or older to obtain treatment.

Patients are treated individually using various behavioural science techniques.

♦♦♦♦♦♦♦♦

Two popular ADA dental films, currently available through the Canadian Dental Association's film distributor, are now in video cassette form. Several sizes are available, including UHS and Betamax.

"Toothbrushing with Charlie Brown" and "It's Dental Flossophy, Charlie Brown," featuring the "Peanuts" comic strip characters, have proved to be popular with Canadian school children and paedodontists.

In "Toothbrushing with Charlie Brown," Charlie Brown teaches Linus and Snoopy how to brush properly. Lucy, of course, knows all about flossing and brushing, but what she doesn't know is that Snoopy practised with her toothbrush. The cassette runs five minutes, with a sound track and color. It is currently priced at \$60 but will increase to \$65 on August 1, 1983.

"It's Dental Flossophy, Charlie Brown" (priced at \$65 — \$70 on August 1, 1983) features Lucy, as the neighborhood counsellor, teaching Charlie Brown and Snoopy how to use dental floss. This cassette is also five minutes long, with sound and color.

Practitioners interested in these cassettes, contact the Canadian Dental Association. If the response is sufficient, cassettes might be ordered in bulk for distribution to all interested dentists.

Continuing Dental Education

Sponsoring Institution/Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor(s)	Registration	Fee	Audience	Contact Person/Telephone
University of British Columbia: Continuing Dental Education	Vancouver, B.C.	A Comprehensive Clinical Course in Nitrous Oxide Sedation		May 13-15, 1983		Drs. D. Donaldson, T. Jastak, F. Quarnstrom	Maximum 24			Continuing Dental Education UBC, (604) 228-2627
"	"	The Case for Removable Appliances		May 28, 1983		Dr. G. K. Isaacson	Unlimited	\$75 Dentists \$35 Auxiliaries	Dentists Auxiliaries	"
University of Alberta, Faculty of Dentistry	Edmonton, Alberta	Anxiety and Pain Control	Pain Management	May 9-13, 1983	Lecture Demonstration Participation	Dr. B. K. Arora	Limited to 16	\$700	GPs Specialists	Dr. A. A. Bene, Mrs. F. Ingham (403) 432-5023
"	"	Molar Endodontics		May 7, 1983	Lecture Participation	Dr. K. Zakariasen, Dr. J. R. Jensen	Limited to 35	\$120	GPs	"
"	"	Dental Hygiene Periodontics		May 5-7, 1983	Lecture Demonstration Participation	Dr. A. Frydman & Associates	Maximum 35	\$300	GPs Hygienists	"
University of Manitoba, School of Dental Hygiene	Faculty of Dentistry, Winnipeg, Manitoba	Orthodontic Module II		May 17, 18, 19, 1983		Recent School of Dental Hygiene Graduates	Maximum 12	TBA	Dental Hygienists	Ms. Maureen Penner (204) 888-2555
Manitoba Dental Assistants' Association	Midwest Dental Laboratories, Winnipeg, Manitoba	Radiology, Biology and Radiology Protection		May 7, 1983		Dr. D. Gelskey				Mrs. Judy Beggs, M.D.A.A (204) 888-3716
University of Western Ontario, Faculty of Dentistry	London, Ontario	Complete Dentures Today	Prosthodontics (Removable)	April 29, 1983	Lecture	Dr. P. S. Sills	Open	\$100	GPs	Mrs. M.J. Wiersma (519) 679-2862
"	"	Participation Course for Lab. Technicians: Fabrication of the Cast-etch Bridge	Prosthodontics (Fixed)	April 29, 1983	Lecture, Demonstration Participation	Dr. D. R. Gratton	Limited to 15	\$175	Lab Technicians	"
"	"	Occlusal Correction Natural Dentition Part I Treatment of TMJ Dysfunction	Occlusion	May 16-20, 1983	Lecture, Clinic, Participation	Dr. D. S. Moore	Limited to 4	\$600	GPs	"
"	"	Practice Management in the 80s	Practice Management	June 10-11, 1983	Lecture	Dr. R. A. Brandon	Open	\$200	GPs, Specialists Assistants, Hygienists, Others	"
ODA Practice Building Program	George Brown College, Toronto, Ont.	Participation Course in Endodontics (Endo 200)		May 15, 1983	Lab Session	Dr. Bernard Dolansky	Limited	\$225	Limited	ODA, Toronto Mrs. J. Johnson

"	Kitchener, Ont.	Practice Building in the 80's	"	June 10	"	"	Max. 50	\$125	"
"	St. Catharines, Ont.	Tax Planning	"	May 27, 1983	"	Mr. Jack Bernstein	Max. 50	\$125	"
"	Ottawa, Ontario	Motivating Your Existing Patients to Purchase the Dentistry they need	Practice Management	May 27, 1983	"	Mr. David Prentice	Max. 50	\$125	"
"	Kingston, Ont.	"	"	June 3	"	"	Max 50	\$125	"
"	Toronto, Ont.	"	"	June 10	"	"	Max. 50	\$125	"
Université de Laval École Médecine dentaire	Laval, Qué.	Les cavités conservatrices en dentisterie opératoire		7 mai 1983	theory et pratique	Dr Denis Robert	50 pour la partie théorique 12 pour la laboratoire	\$50 \$75	Contact: 418-656-2095
École Médecine dentaire	"	La désinfection et la stérilisation en dentisterie	risque d'infection en cabinet privée	14 mai	théorique	Dr Luc Trahan	limité	\$40	dentistes auxiliares 656-5247
Dalhousie University, Faculty of Dentistry	Halifax, N.S.	Post College Assembly: Financial Planning in the 80's	Practice Management	May 9, 1983		Dr. David C. Bell	Open	\$175 for dentists	Ms. Kairen Vaison 902-424-2248
"	"	Taxation and Management Issues	Practice Management	May 10, 1983	Three Lectures in this series	Mr. D. Matheson (CDA Legal Counsel)	"	\$110 for auxiliares	"
"	"	Dental Stress: Burnout Prevention for the Dental Team	Dental Stress	May 10, 1983		Arlene Levin RDH, BSc, MSW	"	For All Three	"

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A LOGICAL FIRST CHOICE

ACTIONS:

Acetaminophen is an analgesic and antipyretic.

INDICATIONS:

TYLENOL^{*} Acetaminophen is indicated for the relief of pain and fever. Also as an analgesic-antipyretic in the symptomatic treatment of colds.

CONTRAINDICATIONS:

Hypersensitivity to acetaminophen.

ADVERSE EFFECTS:

In contrast to salicylates, gastrointestinal irritation rarely occurs with acetaminophen. If a rare hypersensitivity reaction occurs, discontinue the drug. Hypersensitivity is manifested by rash or urticaria. Regular use of acetaminophen has shown to produce a slight increase in prothrombin time in patients receiving oral anticoagulants, but the clinical significance of this effect is not clear.

PRECAUTIONS AND TREATMENT OF

OVERDOSE:

The majority of patients who have ingested an overdose large enough to cause hepatic toxicity have early symptoms. However, since there are exceptions, in cases of suspected acetaminophen overdose, begin specific antidotal therapy as soon as possible. Maintain supportive treatment throughout management of overdose as indicated by the results of acetaminophen plasma levels, liver function tests and other clinical laboratory tests.

N-acetylcysteine as an antidote for acetaminophen overdose is recommended and is available in oral and parenteral dosage forms. More detailed information on the treatment of acetaminophen overdose with N-acetylcysteine in its oral and parenteral dosage forms is available from the manufacturers (Mucomyst, Bristol-Myers Canada Limited trademark for its brand of oral N-acetylcysteine; Parvolex, Glaxo Canada Ltd. trademark for its brand of parenteral N-acetylcysteine), or contact your nearest Poison Control/Information Centre.

DOSAGE:

Adults:

650 to 1000 mg every 4 to 6 hours, not to exceed 4000 mg in 24 hours.

Children:

Based on Weight

10-15 mg/kg every 4 to 6 hours, not to exceed 65 mg/kg in 24 hours.

SUPPLIED:

TYLENOL^{*} Drops: Each 0.8 mL contains 80 mg acetaminophen in a deep red liquid vehicle with a slightly bitter, cherry-flavoured taste. Available in amber bottles containing 15 mL† and 25 mL† and a calibrated dropper.

TYLENOL^{*} Elixir: Each 5 mL contains 120 mg acetaminophen in a cherry-flavoured red vehicle. Available in amber bottles containing 100 mL and 455 mL.

TYLENOL^{*} Chewable Tablets 80 mg: Each round, pink tablet, scored one side and engraved "TYLENOL" the other side, contains 80 mg acetaminophen. Available in amber bottles of 24† tablets.

TYLENOL^{*} Tablets 325 mg: Each round, white tablet, scored on one side and engraved "TYLENOL" other side, contains 325 mg acetaminophen. Available in amber bottles of 24†, 100 and 500 tablets.

TYLENOL^{*} Capsules 325 mg: Each grey and white capsule, printed "TYLENOL 325 mg" cap and body, contains 325 mg of acetaminophen. Available in amber bottles containing 24† and 50 capsules.

TYLENOL^{*} Tablets 500 mg: Each round, white tablet, engraved "TYLENOL" one side and "500" other side, contains 500 mg acetaminophen. Available in amber bottles of 30† and 100 tablets.

TYLENOL^{*} Capsules 500 mg: Each red and white capsule, printed "TYLENOL 500 mg" cap and body, contains 500 mg acetaminophen. Available in amber bottles of 24† and 50 capsules.

†container provided with a child-resistant closure.

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Back problems among dentists

Shirley Bassett, Dip Dent Hyg, BScD
Toronto

ABSTRACT

Four hundred and sixty-five dentists in the Toronto area were surveyed to determine the incidence of back problems. It was found that 62.2 per cent had suffered back or neck pain at some time in their lives, while 36.3 per cent were currently suffering from such problems. Despite major changes in the practice of dentistry, such as improved equipment, the practice of sit-down four-handed dentistry and an increase in the frequency of exercise, results of this survey indicate that the incidence of back problems among dentists has not changed from results published over the last 15 years.

Factors believed to contribute to the development of backache in general and those specific to the practice of dentistry are discussed.

A high proportion of dental practitioners suffer from backache.^{1,2} Data collected in the 1940's revealed that more than 65 per cent of dentists suffered, at some time, from backache.¹

Since that time, many major changes have occurred in dentistry, such as: a change to "sit-down" technique, improved design of most dental equipment and increased use of motion-economy principles (e.g., four-handed dentistry). There has also been a recent upsurge of interest in exercise and fitness among dentists, as well as in the general population.³ In spite of these positive trends, evidence indicates that neck and back problems have not substantially decreased.^{1,2,4,5} A 1976 survey of 432 dentists in Denmark, of which 90.4 per cent were utilizing the sit-down technique, found that 60 per cent suffered from pains in the neck and back.²

During the last decade, little research has been published in the North American literature regarding the extent of this problem among the dental population. Therefore, in this present study, 465 dentists in the Toronto area were surveyed to gain information on the incidence of back problems.

Back problems are common among the general population. Epidemiological data suggest that 60-80 per cent of the population will suffer from back pain at some time in

SOMMAIRE

Dans la région de Toronto, on a interrogé 465 dentistes pour déterminer l'incidence des problèmes dorsaux. On a découvert que 62,2 pour cent des dentistes interrogés avaient éprouvé à un moment ou l'autre des douleurs au dos ou au cou, alors que 36,3 pour cent étaient affligés de ces maux au moment de les interroger. Malgré les changements majeurs apportés dans l'exercice de la dentisterie, — par exemple, l'amélioration de l'équipement, l'exercice assis et à quatre mains, une augmentation de la fréquence des exercices physiques, — les résultats de l'enquête indiquent que l'incidence des problèmes dorsaux chez les dentistes n'a nullement changé depuis la dernière enquête, il y a 15 ans. L'article fait état des facteurs qui, croit-on, causent des douleurs au dos en général et de ceux qui sont particuliers à l'exercice de la dentisterie.

their lives.^{6,9} In spite of its prevalence, the precise cause of many back complaints is unknown.¹⁰

Some of the factors believed to contribute to the development of backache include: 1) the shape of the vertebral column; 2) aging changes within the spine, 3) weak trunk muscles, 4) certain postural practices, movements and lifting techniques, and 5) mechanical stress to the spine.

The shape of the vertebral column has often been singled out as the chief cause of low back pain. The curve in the lower back and neck is reversed from the rest of the spine (**Fig. 1**). This results in weight being borne on the small facet joints located on the posterior portion of

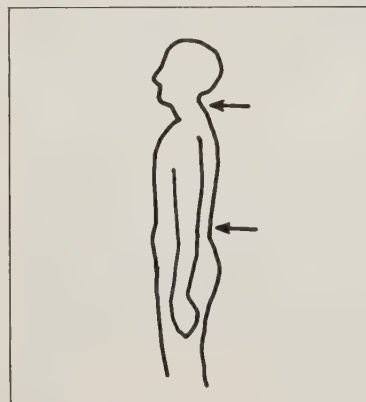


Fig. 1. The neck and lower back are common "trouble" areas. The curve of the vertebral column in these two regions is reversed from the rest of the spine.

the vertebra rather than on the large columnar bodies in the front of the vertebra¹¹ (Fig. 2). Stress on these small joints is believed to be a major source of pain in the back.¹²

One becomes more susceptible to back strain toward middle age. This is due to natural dehydration of the intervertebral discs. The discs, which are composed mainly of water, act as a cushion between the vertebral bodies. Between the ages of 20 and 25, the water content begins to decrease, and this allows the vertebral bodies to come closer together. Progressive settling of one vertebra on another can cause wear in the outer layers of the disc and in the small facet joints on the posterior part of the vertebra¹² (Fig. 2). Hall¹² claims that common disc and facet joint problems account for 90 per cent of all backaches. Degeneration of the intervertebral discs has also been correlated with mechanical stress to the spine.^{13,14}

The load exerted on the intervertebral discs can be dramatically altered by slight shifts in body position or posture. When sitting erect, the load on the disc is moderate, while simply bending forward will significantly increase the load. Similarly, there is less stress on the disc when standing straight than when sitting slumped forward.¹⁵

"Good" posture means straightening or flattening the lumbar spine, thereby placing it in the best position to withstand loads. Straightening the lower spine requires tilting the pelvis toward the sternum (Fig. 3A). Contracting the stomach (abdominal) and side (oblique abdominal) muscles will pull the pelvis into a "pelvic tilt". Such a position will increase the distance between the vertebra, relieving some of the pressure on the discs. The pelvis can then transfer the weight of the trunk to the legs rather than having the spinal joints bear the brunt of the weight.¹⁶

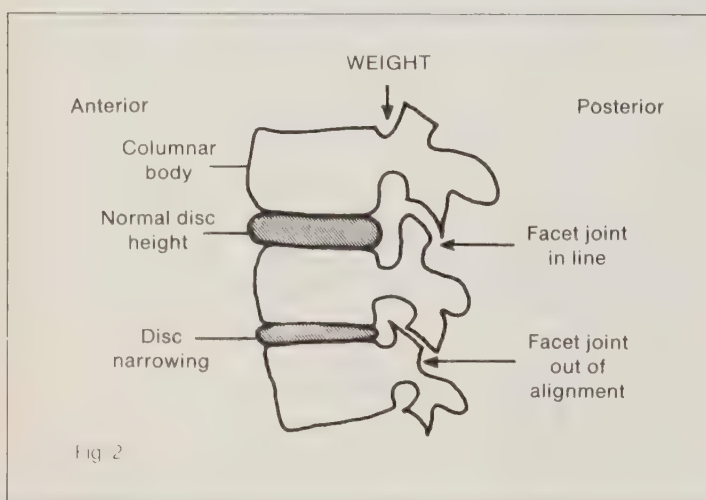


Fig. 2. The anterior portion of the vertebrae, the columnar bodies, are designed for weight-bearing and shock absorbing. The posterior portion is *not* designed to bear weight but rather to contain and protect the neural structures of the CNS. The facet joints help guide spinal movements. Dehydration of the intervertebral discs results in loss of disc height. The vertebral bodies then come closer together and the posterior joints (facet joints) override. Joints in this position may cause back pain, but also increase the spine's susceptibility to injury.

Bending forward (flexion), bending backward (extension) and twisting (rotation) decrease the distance between the vertebra. This places the spine at risk¹² and such movements may accelerate disc degeneration.¹⁷ Habitually sleeping on the stomach increases the sway or lordotic position of the spine and may create back strain. It seems ironic that some of the worst back strains can occur while sleeping.

Even with the spine in the best position, lifting causes an increase in pressure within the lumbar intervertebral discs. This is particularly so when the spine is flexed and the weight to be lifted is not held close to the body.¹⁸ As a general rule, the risk of injury or strain is increased if weight is lifted when the spine is flexed, extended or rotated.

Muscles play an important role in preventing back pain. The trunk muscles stabilize the spine. If the abdominal muscles are weak, the stronger back muscles can pull the lumbar spine into the sway position (Fig. 3B). Sway back posture is often demonstrated by individuals with "pot bellies" since they must lean back in order to maintain their centre of gravity. The back is used as a lever to lift the stomach. If, however, the abdominal and oblique abdominal muscles are strong, contraction of them will create a phenomenon called "intra-abdominal pressure" which forces the spine into a more vertical position and relieves pressure on the intervertebral discs¹⁹ (Fig. 3A). When the muscles of the back and abdomen contract together, this area of the trunk becomes a semi-rigid muscular cylinder²⁰ and, as such, can reduce the load on the lumbar spine by 30 per cent.²¹ By contracting the muscles of the trunk, risk to the spine can be reduced when lifting, twisting or engaging in sports or other physical activities.²² The increase in

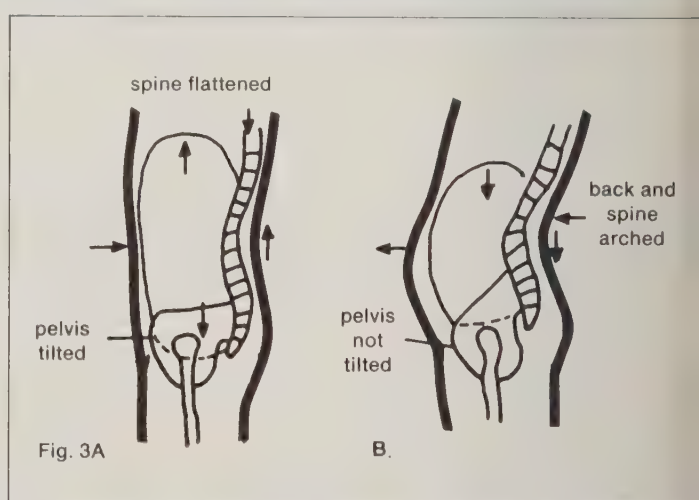


Fig. 3. A. The spine can best withstand loads if it is straight. This can be achieved by tilting the pelvis anteriorly and contracting the abdominal and oblique abdominal (side) muscles. Contraction of these muscles causes "intra-abdominal pressure" which elongates the lumbar spine thereby taking weight off the discs and posterior joints to some extent.

B. The result of weak abdominal muscles; spine is arched due to pull of back muscles. (From Macnab, I.: *Backache*, The Williams & Wilkins Company, Baltimore, 1977).

intra-abdominal pressure redistributes some of the load applied to the vertebral column.

Abnormal muscular tension may also contribute to back pain. In moments of stress or tension the muscles tighten, especially in the neck and low back. The contraction of these muscles may put pressure on a worn joint in the spine and cause pain. This pain, in turn, may cause other muscles in the area to go into spasm, resulting in muscular pain superimposed on joint pain.¹⁵

Like other parts of the body, the spine requires rest. This can only be achieved if stress is removed from the intervertebral discs and facet joints. Sleeping on one's side in a semi-fetal position is an example of a position which allows the spine complete rest. This position allows widening of the intervertebral spaces and thus reduces stress on the spinal joints.

BACK PROBLEMS IN DENTISTRY

In the practice of dentistry, stress, tension and postural practices can further contribute to back problems. The sources of stress related to dentistry are numerous, but some of the most common are: 1) time-pressure — working to a fixed schedule, 2) constant coping with tense or fearful patients, and 3) the exacting nature of the work.²³ All can contribute to muscular tension, which may result in painful muscle spasm in the back and neck area.

Muscular tension is often a response to stress or to poor working postures assumed for long periods of time. Such postures usually result from trying to gain better access and visibility within the oral cavity.

A variety of specific postural faults have been noted among dentists.²⁴⁻²⁹ These include: craning and/or excessive bending and twisting of the neck,²⁶⁻²⁹ bending forward from the waist,²⁸ elevation of the shoulders,²⁹ and general bending and twisting of the back or neck.²⁵⁻²⁸

Craning of the neck (with the chin tipped upwards) or bending the neck forward excessively is the most commonly noted postural fault among dentists.²⁶⁻²⁹ This frequently occurs if the dentist does not have the patient's head at an appropriate height. If the patient is too low, the dentist must bend his head forward and down to attain the correct focal length for performing exacting clinical procedures.²⁶ This may also occur if the dentist has not learned to look through the lower half of the visual field (as with bifocals). In essence, he lowers his head instead of his eyes. This posture can stretch and strain muscles surrounding the cervical spine and put stress on the spinal column.²⁷

Another tendency is to bend forward from the waist instead of from the hips. This places a high degree of stress on the lower spine and may accelerate degenerative changes in the intervertebral disc or strain the spinal ligaments.

Often, one or both shoulders are kept elevated.²⁹ This frequently results from not keeping the elbows close to the body while working. If the patient's head is too high, the dentist must raise his arms and may raise his shoulders

along with them. The result is static and fatiguing contractions of muscles in the shoulder and back which may cause painful stiffness or spasm.²⁵ General bending and twisting of the neck and back stresses the spine and may result in painful muscle spasms.²⁵

Many dentists tend to hold a single posture for long periods of time.²⁵ Unless a concerted effort is made to stop working and change postures, perhaps even to stretch, exercise or relax, no opportunity exists for major muscular relief from strain and consequently there is no relief for the spine. Physically unfit practitioners with weak and stretched abdominal muscles may have difficulty avoiding the sway back position, which increases stress on the intervertebral discs and facet joints.

Clearly, stress, tension and certain postural practices can be major contributors to back problems among dentists.

SURVEY OF DENTISTS

Considering that seven out of 10 Canadians suffer from backache,¹⁵ the incidence of back problems among dentists does not seem unusual or significant. However, among some dental professionals the problem has received a good deal of attention. In Denmark, a course in dental ergonomics has been incorporated into the curriculum of dental students to teach correct working postures, so that back problems and postural defects may be prevented.²⁵

Conversations with a number of Canadian dentists revealed concern for the problem in this country as well. Thus a survey was conducted in the Toronto area to determine the incidence of back pain among dentists. A brief and simple questionnaire was developed, in the hope of attaining a high response rate.

The response rate was good (52 per cent) and the incidence of back problems among the sample was easily determined (62.2 per cent). Unfortunately, it was not possible to draw an abundance of other specific conclusions from the results, as many of the questions tended to be general. Only the results deemed to be of interest to the reader are presented here.

METHODS and ANALYSIS

The questionnaire was given to two different samples of dentists on separate occasions.

Sample 1. In September, 1980, 200 questionnaires were given out at a meeting of University of Toronto part-time clinical staff. A total of 167 valid forms were returned.

Sample 2. In November, 1980, 700 questionnaires were given out to dentists attending a provincial convention at the Royal York Hotel. A total of 298 valid forms were returned.

In total, 900 questionnaires were distributed and 465 valid forms returned, yielding a response rate of 52 per cent.

In analyzing the data, the T-test was used with contin-

uous variables to determine significant differences between: (1) sample 1 and sample 2, and (2) back pain suffer and non-sufferers from the combined sample.

The Chi-square test of significance was used for analysis of categorized variables.

Comparison of sample 1 and sample 2 revealed only one statistically significant difference ($p < .01$ level). The dentists in sample 2 had practised clinical dentistry an average of 2.6 years longer than those in sample 1. Since the total years of clinical practice did not correlate with the occurrence of back pain, the two samples were combined with some confidence. Hence, all statistics presented are for the combined group.

CHARACTERISTICS of the SAMPLE

The following profile summarizes the main characteristics of the population of dentists surveyed. The majority of respondents were male, currently practising clinical dentistry full-time and had been doing so for 13½ years on average. The average age was 40 years, while the average height and weight were 5 feet 9½ inches and 165 lbs, respectively.

RESULTS and DISCUSSION

Of 465 dentists surveyed, 62.2 per cent (288) had suffered back/neck* pain at some time in their lives, while 36.3 per cent were currently suffering from such a problem. Although these results in general correspond to the findings of other surveys,^{1,2,4,5} it is possible that they are artificially high since dentists with back problems may have taken a greater interest in returning the questionnaire than those without the problem.

The incidence of backache was found to be greatest between the ages of 30 and 50 years, which is similar for the general population.¹⁵

It is interesting to note, however, that in a concurrent survey conducted by the author, on 220 dental hygienists, whose average age was 15 years younger than that of the dentists in this survey, the incidence of back pain was identical to that of the dentists — 62.2 per cent.

Very little difference between those with back pain and those without was found with regard to: sex, total years of clinical practice, operating style (stand-up), or frequency of exercise.

It is interesting that regardless of whether the dentist had practised standing up or not, almost the same incidence of back pain occurred. This may indicate, as some suggest, that a "tug of war" exists between the advantages and disadvantages of sitting. While sitting, there is less opportunity for twisting and contorting the body to the same degree compared to standing. On the other hand, sitting exerts the greatest pressure on the intervertebral discs, which can be a prerequisite to back pain.³⁰

About 20 per cent (53) of the back pain sufferers reported that their back problem led them to modify their

practice of clinical dentistry. The most common modifications included: reducing working hours, postural changes, adoption of the sit-down technique and changing dental stools.

Back problems have been cited as the second most common reason for missing work (colds being the first) in an industrial population in the U.S.A.⁹ Surprisingly, 70 per cent (197) of the dentists in this survey had never missed work because of the problem, and of those who had, 62 per cent (54) had missed less than one week. This might lead one to conclude that back problems among dentists are not of a severe nature. One must consider, however, that self-employed dentists suffer a direct loss of income if they are unable to work, unlike other back pain sufferers who may receive compensatory wages.

One indication of the severity of the problem is that more than 70 per cent of the back pain sufferers in this survey had sought some sort of medical help for their problem. A general practitioner was most frequently seen for the problem, followed in popularity by the orthopaedic specialist, chiropractor and physiotherapist. Many dentists saw more than one professional about the problem; in fact, a number had seen more than four different types of medical personnel. Besides those listed above, dentists with back pain sought relief from osteopaths, rheumatologists, massage therapists, neurologists, neurosurgeons, radiologists and psychiatrists (a specialist of medical rehabilitation). This is indicative of the diverse nature of back pain, with its multitude of possible causes and treatments.

A large majority, 242 out of the 288 sufferers, felt that the problem could be alleviated by some form of treatment. The permanence of relief was not asked. General exercise was the most frequently cited source of relief, with specific exercises for the back next. This may indicate that the type of backache most dentists suffer is mechanical in nature.

A variety of other modes of relief besides exercise were also cited by the respondents. The following is a list, in order of most frequently to least frequently suggested methods of back pain alleviation: abstaining from certain activities, chiropractic treatment, physiotherapy, surgery or injection, medications (muscle relaxants), bed rest, heat, posture improvement, weight loss, occlusal adjustment, autosuggestion and relaxation techniques, osteopathic manipulation, acupuncture and neck rotations. Many respondents listed more than one mode of treatment.

In viewing these suggested methods of back pain relief, one should keep in mind that back pain is intermittent and treatment or techniques with a short-term effect, may be applied at the beginning of a natural remission and receive undeserved credit.¹² Several authors point out that regardless of the treatment given, many patients improve within a few weeks,^{6,8,31} and most are well within two months.³

The final question of the survey invited the respondent

*Back/neck pain will be referred to as back pain from this point on.

TABLE I

Equipment Related	Posture or Technique Related	Other
1. Good dental chair* — thin backed lounge type — pump chair to provide knee bend exercise 2. Good operator stool* — supports back — broad seat — adjusts low 3. Properly positioned instruments 4. Good balanced lighting 5. Mobile equipment 6. Over the patient equipment 7. Hand controls instead of foot controls 8. Fiberoptic light on handpiece. *Most frequently suggested	1. Practise sitting down 2. Good posture* — sit up straight — keep elbows close to body 3. Practise 4-handed dentistry 4. Good patient positioning* — recline patient 5. Alternate sitting and standing* — move about between patients 6. Avoid extreme ranges of movement (bending, etc.) 7. Avoid long appointments 8. Rest foot on stool — keep knees higher than hips 9. Sit at 12:00 position	1. Exercise — general — isometric — abdominal strengthening — yoga 2. Relaxation — rest 3. Education, re: — posture — equipment — back and neck problems — preventive exercises 4. Weight loss — weight control 5. Orthopaedic car seat 6. Sex 7. Back brace 8. No aggravations 9. Monthly chiropractic appointments

TABLE I. SUGGESTIONS FROM RESPONDENTS REGARDING EQUIPMENT OR TECHNIQUES THEY BELIEVE HELP TO ALLEVIATE OR PREVENT BACK PROBLEMS

to suggest specific dental equipment or techniques which they believe help to alleviate or prevent back problems. Almost 40 different types of suggestions resulted. These have been categorized into three groups: 1) equipment related, 2) posture or technique related and 3) other. All are listed in **Table I**.

This wide assortment of suggestions indicates that many factors can alleviate or prevent back problems. Probably the most important factors are the ones which were most frequently suggested. These include: practise sitting down, practise good posture, exercise frequently, use a good dental chair, good operator stool and good patient positioning. Unfortunately few respondents defined "good". However, descriptions of correct working postures, patient positioning, and features of good dental equipment can be found in the literature.^{24,33-35}

In brief, the main features of good dental posture include having the operator seated, thighs and shoulders

parallel to the ground, feet flat on the floor, back vertical and supported in the lumbar area, elbows held close to the body and head tilted slightly forward.^{26,33,35} Equipment which aids in the maintenance of such posture should be selected.

There is still some controversy over the ideal postural position to practise dentistry. Which is best, sitting or standing? Each has its own advantage and a number of dentists surveyed recommended a mix of both throughout the day to provide relief from muscular tension caused by holding a single posture for an extended period.

Another controversy concerns the height at which the patient should be placed. Most agree that the patient should be placed in a horizontal position,^{26,33,35} but at what height? Some authors feel that the patient should be placed at the height of the operator's elbow so that the operator can work with his forearms parallel to the ground.^{34,35} This would prevent unnecessary contraction

of the muscles in the shoulder and upper back area. Others believe that a patient placed at this (low) height would require the dentist to bend his head forward and down excessively since the focal distance is too great. To avoid this possibility of neck strain, it is recommended that the patient be placed about mid-sternum height to assure an optimum focal distance.²⁶

It would seem then that the dentist faces a number of trade-off situations. In the latter example, he must choose between eye strain and backache (shoulder).

If a poor posture must be maintained for some time, it can be compensated for by subsequent resting of the strained area. By balancing the amount of stress and strain on the spine, with the amount of rest it is given, back problems can be avoided.

CONCLUSION

Back problems have been plaguing the dental profession for years.^{1,2,4} Despite improved equipment, the practice of sit-down, four-handed dentistry, and an increase in exercise frequency, the results of a survey of 465 dentists in the Toronto area indicate that the incidence of back problems has not decreased over the last 15 years.

More research is needed to determine the specific factors related to back problems among dentists, so that effective preventive measures may be developed. For many dentists, backache is likely to be related to muscular tension and poor working postures. As a preventive measure, dental students should be taught relaxation techniques. They should also be made aware of the dangers inherent in poor body posture and should be taught correct working positions.

These measures will help produce a generation of dentists whose work habits are more conducive to good back health than those of their predecessors. As such, future dentists may be able to avoid the occupational hazard of backache.

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Relief of dental pain by ice massage of either hand or the contralateral arm

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ABSTRACT

Patients suffering acute dental pain were treated with ice massage of (a) the back of the hand between the thumb and index finger or (b) the arm near the elbow. Four groups of patients received the ice massage at one of the points on the side ipsilateral or contralateral to the dental pain. A control group received tactile massage alone. Changes in pain intensity produced by the procedures were measured with the McGill Pain Questionnaire. Pain intensity was decreased by 40-50 per cent ($p < .05$) after ice massage of the ipsilateral hand, contralateral hand or contralateral arm. However, ice massage of the ipsilateral arm had no significant effect compared to the control procedure. The results indicate that ice massage has pain-reducing effects comparable to those of transcutaneous electrical stimulation and acupuncture. The neural mechanisms which may underlie these effects are discussed. Ice massage provides a simple method for the palliative control of pain in dental clinics.

Acute dental pain is relieved by ice massage of the back of the hand between the thumb and index finger on the same side as the pain.¹ This effect resembles the relief of dental pain, in controlled laboratory conditions, by acupuncture of this area, which is known as the Hoku point in acupuncture charts.^{2,3,4,5} Because both procedures produce comparable effects, it is reasonable to assume that they are mediated by similar neural mechanisms. The most reasonable hypothesis is that any form of intense sensory input sends volleys of impulses to the periaqueductal gray and related brainstem areas that, in turn, activate descending inhibitory systems and "close the gate" to pain signals from other areas.^{6,7}

Recent evidence suggests that dental pain may be relieved by stimulation applied to a much wider area than is indicated by acupuncture charts. It is possible, for exam-

SOMMAIRE

Des patients éprouvant des douleurs aiguës aux dents ont été traités avec des massages à la glace sur le revers de la main entre le pouce et l'index ou sur le bras près du coude. Quatre groupes de patients ont été massés avec de la glace sur l'un des points sur le même côté ou le côté opposé de ces points. Un groupe témoin a reçu un massage tactile seulement. Les variations dans l'intensité de la douleur résultant des traitements ont été mesurées à l'aide du questionnaire McGill sur la douleur. L'intensité du mal avait diminué dans une proportion de 40 à 50 pour cent ($p < 0,05$) après un massage à la glace sur la main du même côté que la douleur, sur celle du côté opposé ou sur le bras opposé. Toutefois, le massage à la glace sur le bras du même côté que la douleur ne donnait aucun soulagement significatif comparativement au procédé de contrôle. D'après les résultats obtenus, le massage à la glace réduit la douleur d'une manière semblable à l'acupuncture et la stimulation électrique percutanée. L'article fait état des mécanismes nerveux qui peuvent expliquer ces résultats. Le massage à la glace est une méthode simple pour réduire momentanément la douleur dans les cliniques dentaires.

ple, to achieve excellent control over dental pain by stimulating an area between the fourth and fifth fingers, which is not designed on acupuncture charts as related to facial pain, as well as the Hoku point.⁸ The decreases in pain obtained by stimulation at either site are so large and occur in so many patients that it is unlikely that the pain relief is due to placebo effects. Rather, the results suggest that the area that can be effectively stimulated is not a discrete point but a larger area, possibly the whole hand. The same conclusion can be drawn from a double-blind study on the efficacy of acupuncture on osteoarthritic pain, in which the control patients received "placebo"

acupuncture stimulation at sites just adjacent to the "real" acupuncture points.⁹

Patients in both groups showed significant improvement in tenderness and subjective report of pain, as evaluated by two independent observers, as well as in activity of the joint. Because there was no difference between the two groups, the improvement was attributed to a placebo effect. It is more likely, however, that it is stimulation within a large area and not merely at a point that has an effect.

Similar conclusions may be drawn from an excellent study of acupuncture control over pain in patients with sickle-cell anemia.¹⁰ These data, taken together, suggest that intense stimulation is the necessary factor, and the precise site and mode of stimulation are less important than the intensity of the input.

The purpose of the present study was to determine whether ice massage produces relief of dental pain when it is applied to areas other than the "Hoku point" on the same side as the pain. Ice massage was therefore applied to the Hoku point on the contralateral side as well as the ipsilateral and contralateral upper arms of patients suffering acute dental pain.

Patients and methods

The patients were 22 men and 14 women aged 18-63 years (mean=28 years) attending the outpatient dental clinic of the Montreal General Hospital. All were suffering from pain due to caries, abscesses or other acute dental problems. They were chosen at random from persons seated in the waiting room of the clinic, and were invited to take part in a study on pain.

The experimenter told the patients who were to receive ice massage: "This study is being conducted to test the effectiveness of ice massage of acupuncture points for the relief of dental pain. This is not a treatment for your dental problem. You will be seen by the dentist shortly after this study is completed." After the patients consented to take part in the study, they were then given the McGill Pain Questionnaire¹¹ to obtain measures of their pain.

Ice massage was administered by gently massaging the skin with an ice cube held in a gauze pad. The ice was applied directly to the Hoku area or to the lower arm near the elbow on either side. The site near the elbow is labelled as "Large Intestine 10" (LI-10) on acupuncture maps¹² and is designated as an acupuncture point for dental pain. Ice massage was stopped after seven minutes or when the patient reported that the ice was too painful to endure any longer. The McGill Pain Questionnaire was then administered immediately after stimulation to measure the degree of pain relief.

The control procedure consisted of tactile massage, in which the Hoku area on the same side was massaged gently with a gauze pad into which a small wooden ball had been inserted. The instructions were the same as for ice massage above, except that the word "ice" was deleted.

The site and type of stimulation were chosen on a random basis as each patient became available for the study.

All groups were comparable in terms of cause and locus of pain. The number of patients in each group is shown in Table 1.

The major index measured by the McGill Pain Questionnaire¹¹ is the Pain Rating Index, which is the sum of the rank values of the words chosen from 20 sets of qualitative words. Each set contains two to six words that describe the sensory, affective and evaluative properties of pain. The percentage changes in the index were calculated by comparing the scores obtained before and after treatment. An additional index is the Present Pain Intensity, a measure of the overall pain intensity, which is scored from 0 to 5 (0 — no pain; 1 — mild pain; 2 — discomforting; 3 — distressing; 4 — horrible; 5 — excruciating). The McGill Pain Questionnaire has been found to provide reliable, valid, quantitative information about the subjective experience of pain.^{13,14,15,16}

RESULTS

Table I shows the mean scores on the Pain Rating Index (PRI) before and after tactile massage (the control procedure) as well as ice massage of the four sites on the hands and arms. The mean percent decrease in PRI scores and the percent of patients reporting a decrease of more than 50 per cent are also shown. An analysis of variance of the mean percentage decreases in pain reveals that the procedures are significantly different ($p = .006$) in their relative effectiveness. A Newman-Keuls analysis of each experimental procedure shows that stimulation of the ipsilateral arm does not produce a statistically larger effect than the control procedure of tactile massage. However, ice massage of the ipsilateral and contralateral Hoku points and of the contralateral arm produced decreases significantly larger ($p < .05$) than the control procedure or ice massage of the ipsilateral arm.

An analysis of variance of the mean PRI scores before the procedures showed that there were no differences among the groups. However, the analysis of variance of the scores after the procedures is significant at the .03 level. Analyses of variance carried out on the Present Pain Intensity scores provided the same pattern of statistical significance levels.

The results obtained with the control procedure show that tactile massage produced, on the average, a slight increase in pain. Three patients, in fact, reported pain increases of 41 per cent, 26 per cent and 13 per cent, while the remainder reported pain decreases. Pain increases in some patients during a similar control procedure were found in an earlier study¹ Whether they represent a normal increase in pain due to the absence of effective treatment or an increase due to summation or facilitation by the tactile massage, is not known.

DISCUSSION

The results of this study show that dental pain is relieved by ice massage of several sites distant from the

TABLE I — Mean percent decreases in dental pain produced by tactile massage (control) and ice massage applied to four sites and percent of patients reporting a pain decrease of more than 50 per cent.

Procedure	N	Mean Pain Rating Index		Mean % Decrease in Pain	% of Patients Reporting a Decrease of more than 50 per cent
		Before	After		
Tactile massage of ipsilateral hand (control)	6	30.8	33.2	+1.9%*	16.7%
Ice massage:					
Ipsilateral hand	8	33.3	16.0	55.9%	50%
Contralateral hand	8	29.0	17.1	42.6%	37.5%
Ipsilateral arm	7	35.3	29.4	18.2%	14.3%
Contralateral arm	7	25.0	13.4	47.6%	57.1%
Analysis of Variance (p value)		NS†	.03.	.006	

* A plus sign represents an increase in pain

† Not significant

pain. The large effect from the ipsilateral hand is consistent with earlier findings.¹ The effectiveness of the contralateral hand and arm is not a surprise and is consistent with reports in the Chinese literature on acupuncture.¹² It confirms the general idea that acupuncture points are based on empirical observation that intense stimulation of certain points is particularly effective for relieving pain at near or distant sites. The failure to relieve pain by stimulation of the ipsilateral arm is especially interesting.

This pattern of results — some effective sites and an ineffective one — is remarkably similar to the pattern of findings observed in a physiological study by Toda et al.¹⁷ The jaw-opening reflex evoked by stimulation of the tooth pulp of the rat was strikingly diminished by stimulation of several traditional acupuncture points designated for orofacial pain, but was not affected by other points which were similarly designated. In contrast, several “control” points which traditionally are not related to orofacial pain did, in fact, diminish the jaw-opening reflex, while others did not. The pattern, then, is a complex one.

The fact that stimulation of the forelimbs affects pain perception (in man) and the jaw-opening reflex (in rats) is consistent with micro-electrode studies of trigeminal neurons.¹⁸ Responses evoked in individual neurons in the trigeminal subnucleus caudalis in the cat by stimulating the tooth pulp are markedly inhibited by direct stimulation of the periaqueductal gray and related brainstem structures. Interestingly, stimulation of the forepaws also suppresses the responses evoked by noxious stimulation of the tooth pulp or facial skin.

It is known^{19,20} that there are direct projections from the spinal cord to the trigeminal nucleus, which could mediate inhibitory effects of inputs from the limbs on tri-

geminal neurons. However, there is no information about the somatotopic organization of these projections. In the light of recent evidence, a more likely mechanism to explain the effects of distant stimulation on dental pain is the loop involving afferent fibres from the upper limbs to the brainstem inhibitory control structures, and descending control fibres which go to the subnucleus caudalis. These brainstem structures may be conceptualized as a “central biasing mechanism”,⁶ or a “diffuse noxious inhibitory control (DNIC)”^{21, 22} which mediates descending inhibitory effects evoked by intense, painful inputs. Cells in the reticular formation and periaqueductal gray which respond to noxious stimuli exhibit a gross somatotopic organization characterized by large receptive fields.²³

Within the periaqueductal gray matter, Liebeskind and Mayer²⁴ recorded responses evoked by noxious stimuli and found a somatotopic organization in which the face and forepaws are represented in the rostral portion whereas the hindpaws and tail are represented more caudally. Furthermore, when the periaqueductal area is electrically stimulated to produce analgesia, a complex somatotopic organization is revealed — there is a dorso-ventral organization in which the face is represented dorsally and the more caudal parts of the body become analgesic as the electrode tip is moved ventrally.²⁵ This organization exists throughout the rostrocaudal extent of the periaqueductal area.

It appears, then, that particular body areas project especially strongly to discrete regions of the periaqueductal gray which, in turn, exert an inhibitory control over pain signals from particular parts of the body. The complex somatotopic organization of this loop could provide a neural substrate for the results of this study.

Our results have practical implications. They suggest that ice massage, which is an extremely simple procedure, can be used to control pain in dental clinics at which patients in pain must wait a long time before seeing the dentist. The patient can easily be shown how to rub the ice over the appropriate areas of the hand or arm. Furthermore, the fact that ice massage has analgesic effects similar to those of transcutaneous electrical stimulation for the control of the low back pain²⁶ suggests that it may also be effective for other forms of chronic pain, including orofacial pain.

CONSENT

The informed consent of all human subjects who participated in the experimental investigation reported or described in this manuscript was obtained after the nature of the procedures and possible discomforts and risks had been fully explained.

ACKNOWLEDGEMENT

This research was supported by grant A7891 from the Natural Sciences and Engineering Research Council of Canada. It is a pleasure to thank Mr. Joel Melzack and Miss Christina McMillan for their valuable assistance.

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DIAGNOSIS OF TEMPOROMANDIBULAR JOINT DYSFUNCTION

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1. Alling, C.C. *The diagnosis of chronic maxillofacial pain*. Journal of Prosthetic Dentistry, v. 45, no. 3, March 1981, pp. 300-306.

2. Atkinson, W.B. and Bates, R.E., jr. *Temporomandibular joint dysfunction myofascial pain: an organized approach to diagnosis*. Journal of the Nebraska Dental Association, v. 58, no. 4, Summer 1982, pp. 9-12.

3. Brewka, R.E. *Fulcrum — turning point for orthodontic and oral myology diagnosis*. International Journal of Oral Myology, v. 6, no. 3, July 1980, pp. 4-7.

4. Bronstein, S.L., Tomasetti, B.J. and Ryan, D.E. *Internal derangements of the temporomandibular joint: correlation of arthrography with surgical findings*. Journal of Oral Surgery, v. 39, no. 8, August 1981, pp. 572-584.

Abstract: The diagnosis of dysfunctional temporomandibular joint (TMJ) disorders unresponsive to nonsurgical treatments heretofore has often been empirical. With the development of TMJ arthrography, diagnosis has been greatly improved; an accurate picture of the condition of the joint now provides a substantial base on which to build a rational and reasonable treatment plan. Clinical symptoms can be accurately correlated with the radiographic picture, a valid surgical procedure can be per-

formed because the joint condition is known, and a meaningful prognosis can be determined.

5. Epstein, J.B. and Ruprecht, A. *Bone Scintigraphy: an aid in diagnosis and management of facial pain associated with osteoarthritis*. Oral Surgery, Oral Medicine and Oral Pathology, v. 53, no. 1, January 1982, pp. 37-42.

6. Friedman, M.H. and Weisberg, J. *Application of orthopedic principles in evaluation of the temporomandibular joint*. Physical Therapy, v. 62, no. 5, May 1982, 597-603.

Abstract: Temporomandibular joint dysfunction is often the cause of a variety of symptoms throughout the head and neck. Because such dysfunction plays an integral part in head pain and earache, differential diagnosis should include an evaluation of the temporomandibular joint. Dentists are the primary professionals involved in temporomandibular joint evaluation and treatment, but they are mainly concerned with nonmovable radiopaque parts. Physical therapists, then, must learn more about this joint so they can assist dentists in restoring function to it.

7. Helms, C.A. and others. *Anthrotomographic diagnosis of meniscus perforations in the*

DIAGNOSTIC TOUCHANT LA DYSFONCTION DE L'ATM

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temporomandibular joint. British Journal of Radiology, v. 53, no. 628, April 1980, pp. 283-285.

8. Kaban, L.B. and Bertolami, C.N. *The role of CT scan in diagnosis of TMJ ankylosis: report of case*. Journal of Oral Surgery, v. 39, no. 5, May 1981, pp. 370-372.

Abstract: Computed tomography was found to be useful in identifying complete, unilateral, fibro-osseous ankylosis of the temporomandibular joint in a case of mandibular hypomobility. The scan had increased sensitivity and reliability in studying hard and soft tissue of the TMJ and gave the patient less radiation exposure than conventional tomography or anthrotomography. The current report incorporates the CT scan into radiographic protocol for the diagnosis of mandibular hypomobility and identifies situations in which conventional tomography can be omitted.

9. Kinnie, B.H. *Laminagraphic x-ray procedures in the diagnosis and treatment of the TMJ syndrome*. Dental Radiography and Photography, v. 54, no. 4, 1981, pp. 65-79.

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11, November 1980, pp. 1930-1935.

11. Larheim, T.A. and others. *The temporomandibular joint in juvenile rheumatoid arthritis. Radiographic changes related to clinical and laboratory parameters in 100 children.* Scandinavian Journal of Rheumatology, v. 11, no. 1, 1982, pp. 5-12.

Abstract: A prospective study of 100 children aged 2-17 years (68 girls) with juvenile rheumatoid arthritis (JRA) was initiated to follow changes in the temporomandibular joint (TMJ), growth of the craniofacial complex and development of the dental occlusion, and to relate the findings to clinical and laboratory parameters. The mean age at onset was 5.5 years. The debut type was acute febrile in 14, pauciarticular in 64, and polyarticular in 22 patients. At examination, at mean age nine years, 45 patients

had pauci- and 55 polyarticular JRA. Definite radiographic TMJ changes were found in 41 patients (unilaterally in 17). 130 children without joint disease served as controls.

12. Nakasima, A. and others. *Radiologic exposure conditions and resultant skin doses in application of xeroradiography to the orthodontic diagnosis.* American Journal of Orthodontics, v. 78, no. 6, December 1980, pp. 646-656.

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NEW LIBRARY ACQUISITIONS

The following current acquisitions are available on loan from the Resource Centre/Library.

1. Bell, Welden E. *Clinical Management of Temporomandibular Disorders.* Chicago, Ill.: Year Book Medical Publishers, 1982. 231p. 1 copy.
2. IARC Working Group on the Evaluation on the Carcinogenic Risk of Chemicals to Humans. *Some Aromatic amines, Anthraquinones and Nitroso Compounds, and inorganic fluorides used in drinking-water and dental preparations.* Lyon?: International Agency for Research on Cancer, 1982. 341p. 1 copy.
3. Kutscher, Austin H., editor. *Pharmacology for the Dental Hygienist.* 2nd ed. Philadelphia: Lea & Febiger, 1982. 389p. 1 copy.
4. McLean, John W. *The Science and Art of Dental Ceramics.* Vol.

2. Chicago, Ill.: Quintessence Publishing Co., 1979. 512p. 1 copy.

5. Meilicke, Carl A. and Storch, Janet L., editors. *Perspectives on Canadian Health and Social Services Policy: History and Emerging Trends.* Ann Arbor, Mich.: Health Administration Press, 1980. 520p. 1 copy.

6. Melnick, Michael, Shields, Edward D. and Burzynski, Norbert J., editors. *Clinical Dysmorphology of Oral-Facial Structures.* Boston: John Wright-PSG, 1982. 533p. 1 copy.

7. Miller, Ernest L. *Removable Partial Prosthodontics.* Baltimore: Williams & Wilkins, 1981. 420p. 1 copy.

8. Silverstone, L.M. and others. *Dental Caries: Aetiology, Pathol-*

TITRES EN BIBLIOTHÈQUE

Les titres indiqués ci-dessous sont maintenant disponibles à la bibliothèque/centre de documentation de l'ADC.

ogy and Prevention. London: Macmillan, 1981. 315p. 1 copy.

9. Taylor, Malcolm G. *Health Insurance and Canadian Public Policy: the Seven Decisions that Created the Canadian Health Insurance System.* Montreal: McGill-Queen's University Press, 1978. 473p. 1 copy.

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The Journal of Cranio-Mandibular Practice. Published quarterly by CHROMA, Inc. Chattanooga, Tennessee.

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12:00 PM-Registration Desk Opens
3:30 PM-Alberta Dental Association Annual Meeting
7:00 PM-"Participation Night"

MONDAY, JUNE 13

AM-Exercise
Breakfast Clinics (eat & learn)
Education - Speaker Donald O. Clifton, Ph.D.,
Selection Research Inc., "Varsity Management"
PM-Exposition
Education continued - Donald O. Clifton, Ph.D..
Evening-Western Roundup - Dinner & Entertainment

TUESDAY, JUNE 14

AM-WCDS Marathon Run (8 km)
WCDS Fun Run (1 km)
Breakfast Clinics (eat & learn)
Education - Speaker Art Burgess, Ph.D.,
University of Alberta, "Physical Fitness - A
Lifetime Investment With a Maximum Return"
PM-Exposition
Sports Events
Evening-High Society (you might meet the "Stars" while
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The Harvard School of Dental Medicine: Phase Two in the Development of a University Dental School

James Morse Dunning

*The Harvard School of Dental Medicine, 1981.
15.00, 141 pages*

James M. Dunning is Professor of Ecological Dentistry, Emeritus, at Harvard University and well known for his works in public health, mainly as the author of "Principles of Dental Public Health". This time he appears to us as historian as he relates the episodes the Harvard Dental School went through to become the Harvard School of Dental Medicine. Dunning has been associated for more than 35 years with Harvard (including five years as dean) and thus has been acquainted with all sources of information pertinent to this institution.

This book is not the first one written on this subject. As the title states, there was a preceding endeavour, the "History of Harvard Dental School" written by Lapgood and published in 1930.

The central element in Dunning's book is the dental curriculum and its evolution through five generations of health profession-

als, educators and researchers. As he mentioned, "the emphasis of the story has been placed upon educational methods and upon environmental concerns". Dunning took great care to put in their proper perspective, with the right amount of details, the radical changes the program underwent and also the academic structures and the staff supporting them.

Since the foundation of Harvard Dental School in 1867, the first dental school created in a university environment in North America, it was decided that it would exert a strong leadership in dental education. The scenario is well built and we see, coming on stage, all those who made a significant contribution to its academic life as teachers, researchers, benefactors and administrators. The deans, (there are nine altogether), are identified with the trends and needs of their particular era. From the introduction of the basic sciences to the five year curriculum, they demonstrated their ability to work toward very specific goals.

Among many outstanding undertakings was the shift from the American type dental curriculum to a combination of medical and dental curriculum including four

years of medicine followed by one and a half years of dentistry. Incidentally, this experience was a complete failure. This upheaval was not the only stormy period. Another one occurred in the late 60's which threatened the existence of the school.

All along the book, the author, with serenity and objectivity, leads us through seven chapters of easy reading and most informative topics. Dental educators can find in this book a very interesting epitome of the history of dental education in North America since the major events reported are interpreted in relation to the general evolution of the other teaching institutions and also the dental profession.

Those interested in knowing the extent of the contribution of Harvard School of Dental Medicine in dental research will find, duly presented, an impressive list of researchers and their deeds. It will also be of interest to every one eager to discover the backgrounds of today's dentistry. To all of them this book will provide moments of pleasant and enriching reading.

This book was reviewed by Dr. Jean-Paul Lussier, President, Faculty of Dentistry, Université de Montréal.

Communication for Dental Auxiliaries

Cheryl B. Wiles &

William J. Ryan

*Weston Publishing Company
Weston, Virginia
31 pages*

As a certified dental assistant with 12 years experience in private practice I found this to be a most difficult book to review.

From the comments on the back cover one would assume that even

though the publication was perhaps meant for students it would still be of great value to an experienced dental auxiliary. However, it is my opinion that the material covered in this textbook is far too basic and far below the level expected from dental assisting students in Canada and with the exception of several of the chapters, is not applicable to experienced auxiliaries.

The chapter "First Impressions"

was generally well done and although it contained no new information the review of the material is always helpful. This section covered the physical environment and inter-personal encounter dealing with such subjects as waiting room appearance, telephone voice, verbal communication and physical behavior. These points help to enforce the importance of the patient's first im-

Continued on next page

pressions of the dental office and the first impressions of the dental staff concerning the patient in the successful rendering of preventive dental care.

The section on "Organizational Communication of the Dental Health Team" was comprehensive and well written. It dealt with building a good dental health team and the many factors that influence the effectiveness of that team. A subject which may well be the most vital to an effective dental health team — "Conflict, Man-

agement and Problem Solving" is covered in Chapter 10.

In the remaining chapters the most basic communication skills have been made to appear most complicated. In Canadian schools, most of the material would have been covered in elementary or high school classes. Unfortunately I cannot recommend this publication for either dental auxiliary students or experienced personnel.

This book was reviewed by Connie J. Wesley, CDA.

Programme scientifique définitif du Congrès de l'ADC

Le programme scientifique du Congrès de l'ADC qui aura lieu à Vancouver, du 26 au 28 septembre, est maintenant établi au complet.

Le lundi 26 septembre, de 9 heures à 12 heures, le Dr Ray Contino parlera des prothèses fixes alors que le Dr Norm Ferguson fera un exposé sur l'occlusion dans la salle *British* de l'Hotel Vancouver.

De 10h 45 à midi, la conférence *Grieve Memorial* sera prononcée dans la salle *Waddington*, tandis que le Collège royal des dentistes du Canada tiendra, dans la suite *Social*, un symposium sur les maladies parodontaires.

Également le lundi matin, il y aura des débats, dont un sur la chirurgie buccale et un autre sur les prothèses amovibles.

Après le déjeuner qui sera servi à l'hôtel *Hyatt Regency* de Vancouver, de 14 heures à 16h 30, le Dr Charles Bolender parlera des dentiers complets, alors que le Dr Bob Myall fera un exposé sur les lésions buccales. Pour sa part, le Dr Contino répètera son exposé sur les prothèses fixes. Par ailleurs, deux autres débats auront lieu, l'un sur le contrôle de l'infection et l'autre sur l'occlusion. Enfin, le symposium du CRDC se poursuivra.

Le mardi 27 septembre, à l'hôtel Vancouver, M. Covert Bailey présentera un programme d'une journée sur

la condition physique et l'alimentation à l'intention des dentistes et des auxiliaires. Ce programme s'intitule bien à propos: "Fit or fat" (En forme ou énorme).

Durant la matinée, le Dr Bill Collett parlera de radiologie et le Dr Dick Tucker de dentisterie restauratrice. De plus, il y aura une discussion touchant l'avenir de la dentisterie et un débat sur les maladies parodontaires.

Pour faire suite au programme de Covert Bailey, il y aura, l'après-midi, un débat sur le contrôle du cancer, tandis que M. Cliff Freehe donnera une conférence sur la photographie intra-buccale.

Toujours le mardi après-midi, on pourra assister à la première conférence pédagogique de l'ADC sur la gestion des cabinets ainsi qu'à des démonstrations cliniques faites par des dentistes et des étudiants.

Le mercredi 28 septembre, le Dr Bob Johnson parlera de parodontie et M. Warren Mitchell animera une séance sur les abris fiscaux et les investissements. Il y aura aussi des débats sur les prothèses fixes, la dentisterie judiciaire et l'endodontie.

La conférence de l'ADC sur la gestion des cabinets sera répétée le mercredi matin également, et se poursuivra l'après-midi. Dans la matinée, il y aura aussi des démonstrations cliniques.

^N222* Tablets

INDICATIONS

For relief of mild to moderate pain, fever and inflammation as in influenza, common cold, low back and neck pain, headache, trauma, following dental and surgical procedures.

DOSAGE

Adults—1 or 2 tablets one to three times daily; Children's dosage, when recommended by a physician: 10 to 14 years, one tablet, one to three times daily; 5 to 10 years, one-half tablet, one to three times daily.

CONTRAINDICATIONS

Gastrointestinal ulceration and sensitivity to any of the components.

WARNINGS

Salicylates increase the effects of anti-coagulants. Caution is necessary when salicylates and anticoagulants are prescribed concurrently. Also, salicylates may depress the concentration of prothrombin in the plasma. Large doses of salicylates may affect insulin requirements of diabetics. Salicylates may potentiate sulfonylurea hypoglycemic agents. Analgesic abuse (excessive and prolonged therapy) has been associated with nephropathy. TO AVOID ACCIDENTAL POISONING ACETYSALICYLIC ACID PREPARATIONS MUST BE KEPT WELL OUT OF REACH OF CHILDREN.

PRECAUTIONS

Give with caution to patients with asthma, other allergic conditions, bleeding tendencies, or hypoprothrombinemia. Salicylates can produce changes in thyroid function tests.

Observe care in use of codeine, although tolerance and addiction are rare. Give codeine with caution to patients with severe respiratory depression. Its depressant effect may be enhanced by concurrent administration of sedatives and tranquilizers.

ADVERSE REACTIONS

Acetylsalicylic acid: Gastrointestinal: dyspepsia, heartburn, nausea, vomiting, diarrhea, gastrointestinal ulceration and bleeding. Ear reactions: tinnitus, hearing loss. Hematologic: anemia, leukopenia, thrombocytopenia, purpura. Dermatologic and Hypersensitivity: urticaria, angioedema, pruritus, various skin eruptions, asthma and anaphylaxis. Miscellaneous: mental confusion, drowsiness, sweating and thirst.

Codeine: Average or large doses may cause various gastrointestinal symptoms such as nausea, vomiting and constipation.

Caffeine: May cause nausea, nervousness, insomnia, headache, vomiting, palpitation, vertigo, muscle tremor, sensory disturbances, excessive diuresis in sensitive patients. Large doses may cause gastric ulceration.

FULL PRESCRIBING INFORMATION AVAILABLE ON REQUEST

HOW SUPPLIED

©222* Tablets—White, scored, engraved 222 on one side. Each tablet contains: acetylsalicylic acid 375 mg, caffeine citrate 30 mg, codeine phosphate 8 mg. Available in tubes of 12; bottles of 40, 100 and 250; plus bottles of 60 with safety cap.

PAAB

PMAC

2-176

Frosst

P.O. BOX 1005, POINTE-CLAIRE
DORVAL, QUEBEC H9R 4P8

Bonnes provisions du vaccin Heptavax B

Le Canada dispose maintenant de bonnes provisions du vaccin Heptavax B qui s'est révélé efficace dans 92,3 pour cent des cas pour protéger les personnes, y compris les dentistes, dangereusement exposées à l'hépatite virale B.

André Marchetaire, gestionnaire du vaccin pour le distributeur canadien, la firme *Merck Sharp and Dohme Canada*, a déclaré: "Présentement, à moins que la demande devienne exceptionnelle, nous serons en mesure de répondre aux besoins des provinces pour les 12 prochains mois."

Agréé par le Canada à la fin de l'année 1982, le vaccin a été mis au point par le *Merck Institute for Therapeutic Research* à West Point (Pennsylvanie). Il est fabriqué aux États-Unis et distribué au Canada par la firme *Merck Sharp and Dohme Canada* qui, actuellement, est la seule compagnie autorisée à ce faire.

Selon le Dr Will Dorion, directeur des Affaires médicales pour la firme en question, le procédé de fabrication est long et complexe.

Un long procédé

"Il faut de 60 à 65 semaines pour fabriquer une quantité donnée de vaccins à partir du plasma sanguin humain," fait remarquer le Dr Dorion. Il faut le débarrasser de toute impureté."

Les principales étapes de la fabrication sont:

- la défibrination du plasma pour en éliminer les protéines;
- la purification et la concentration des antigènes superficiels;
- le traitement des enzymes pour extraire les protéines étrangères qui restent et purifier davantage le plasma;
- la stérilisation;
- l'inactivation avec du formol;
- l'accumulation;
- l'adsorption d'un adjuvant utilisé pour accroître le plus possible la réponse immunologique;
- le remplissage.

Des essais d'innocuité sont faits, premièrement, sur le plasma originel pour s'assurer qu'ont été éliminés les agents infectieux externes; deuxièmement, sur l'ensemble des antigènes purifiés pour faire en sorte que le virus soit stérile, pur et inactivé; troisièmement, sur le vaccin lui-même pour s'assurer de la stérilité micro-bienne, déterminer le contenu en protéine et savoir s'il a la puissance voulue. Les essais sont effectués dans des milieux artificiels, avec des cultures cellulaires et des espèces animales susceptibles d'être atteintes d'hépatite virale B.

Le coût de fabrication, de dire le Dr Dorion, dépend du temps qu'exigent toutes ces étapes, d'autant plus que la quantité de vaccins obtenus varie d'une fois à l'autre.

"Présentement, le vaccin est fabriqué à partir du plasma humain et ce n'est pas demain qu'on pourra le fabriquer synthétiquement," note le Dr Dorion en précisant qu'une série complète d'injections coûte de 130\$ à 140\$.

L'administration du vaccin se fait en trois temps, les deuxième et troisième doses étant injectées respectivement un mois et six mois après la première. Celle-ci procure l'immunité dans le plus bref délai possible, les rappels étant nécessaires pour que le taux des anticorps devienne maximal et que les cellules-mémoire soient suffisamment stimulées pour rendre

ceux-ci durables. On prévoit qu'après la troisième injection, l'immunité sera valable pour au moins cinq ans.

Les provinces sont informées

Selon M. Marchetaire, la compagnie a fourni à chaque province des informations touchant le vaccin et la maladie en question et il appartient aux autorités provinciales de décider comment le vaccin sera distribué.

"Certaines provinces le distribuent par l'intermédiaire des services de santé et des hôpitaux, tandis que d'autres le distribuent par l'intermédiaire des agences de la santé du gouvernement provincial," remarque M. Marchetaire.

Un dentiste était si anxieux de se faire vacciner qu'il s'est rendu à Montréal en avion, à l'usine de la firme *Merck Sharp and Dohme Canada*. "Il a fait le voyage à ses frais," précise le Dr Dorion, "s'est procuré le vaccin et est retourné chez lui pour se le faire administrer par son médecin."

De l'avis des experts, on compte de huit à dix mille cas d'hépatite virale B au Canada chaque année.

Outre les dentistes, les personnes les plus exposées sont les professionnels de la santé tels les médecins, les chirurgiens, les gardes-malades et les techniciens de laboratoire médical. Ajoutons encore les patients traités à la dialyse et les personnes qui s'occupent d'eux.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 28 février 1983.

<i>Fonds d'actions ordinaires</i>	\$65.4537
<i>Fonds à revenu fixe</i>	\$34.8133
<i>Fonds garanti</i>	\$25.5898
<i>Fonds de placement</i>	\$13.4029
L'avoir total (valeur marchande) du régime s'élevait à \$35,324,279.	
Au 31 janvier 1983, les chiffres du mois précédent étaient les suivants:	
<i>Fonds d'actions ordinaires</i>	\$63.5503
<i>Fonds à revenu fixe</i>	\$34.0694

<i>Fonds garanti</i>	\$25.3965
<i>équilibré</i>	\$13.1466

L'avoir total (valeur marchande) du régime s'élevait à \$34,027,955.

Pour de plus amples renseignements, veuillez écrire à l'adresse suivante: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3, ou appeler le service de renseignements du CDSPI en composant 1-800-268-5418 (appel sans frais pour l'Ouest canadien, les Maritimes et l'Ontario où le code est 807 seulement), 1-800-268-3411. (appel sans frais pour le Québec et l'Ontario sauf où le code est 807), et 497 7117 (Région métropolitaine de Toronto).

Réorganisation du Conseil éditorial de l'ADC

On a récemment modifié la composition du Conseil éditorial de l'ADC. Auparavant, il se composait d'un président, d'un praticien dentaire, d'un autre dentiste, de la directrice des Communications, du rédacteur en chef, de deux rédacteurs scientifiques et d'un directeur publicitaire.

Dorénavant, le Conseil éditorial comprendra un président, le Dr Alexander MacLeod (Halifax, Nouvelle-Écosse); un membre actuel, le Dr A.D. Sparrow (Calgary, Alberta); le rédacteur en chef, M. Clarence Metcalfe; la directrice des Communications, Mme Doris L. Goodwin; et deux dentistes membres de l'ADC, soit les Drs J.D.R. Grier (Victoria, Colombie-Britannique) et Marvin Klotz (Willowdale, Ontario).

Le directeur général de l'ADC, M. Hubert Drouin, est nommé d'office.

Les membres de l'équipe éditoriale sont Mme Anna Spencer, directrice publicitaire; les Drs R.S. Turnbull et Pierre C. Desautels, rédacteurs scientifiques respectivement anglais et français; M. Clarence Metcalfe, rédacteur en chef; et Mme Carolyn Hackland, rédactrice adjointe.

Le Conseil éditorial est chargé de la publication du Journal de l'Association dentaire canadienne en se conformant aux directives suivantes:

Le Journal doit se caractériser par son excellence tant pour la présentation que pour le contenu et les annonces publicitaires; publier des articles scientifiques et cliniques originaux et valables; encourager la rédaction d'articles scientifiques ou d'intérêt spécial par des auteurs canadiens; être une publication bien équilibrée en français et en anglais, intéressant le plus grand nombre de lecteurs possible; communiquer les nouvelles et faire état des affaires de l'Association dentaire canadienne de concert avec les autres publications de l'association; être distribué aux membres de



M. Hubert Drouin
directeur général de l'ADC

l'Association dentaire canadienne et aux autres personnes que le Conseil d'administration se réserve le droit de désigner en temps voulu; et viser à être exploité avec un budget équilibré.

Les membres du Conseil Éditorial

Le président, le Dr Alexander E. MacLeod, est un praticien général et un expert-conseil en gestion. Il a été membre de la Faculté de dentisterie de l'Université Dalhousie, à Halifax, de 1968 à 1981.

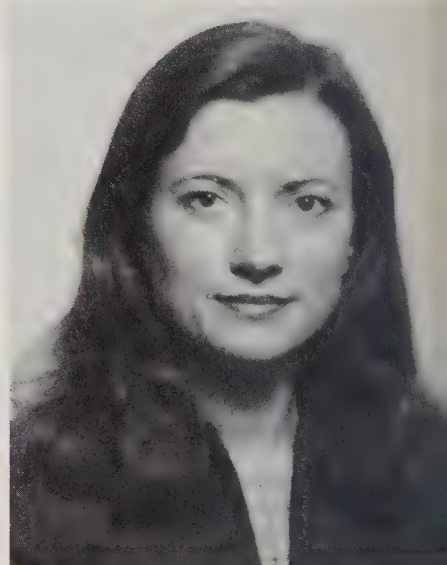
Né à Glasgow, en Écosse, le Dr MacLeod embrasse la profession de son père et, durant son premier séjour au Canada, fréquente l'Université Dalhousie où il obtient son doctorat en chirurgie dentaire en 1962.

En 1968, il s'installe au Canada et se joint à la Faculté de dentisterie de l'Université Dalhousie.

Le Dr MacLeod est un ancien membre des Services d'information de l'ADC, agissant comme président de 1977 à 1981.

Il a présidé le comité spécial créé pour réviser le Journal en 1978 et, depuis 1979, il est président du Conseil éditorial.

Le Dr A.D. Sparrow est spécialiste en chirurgie buccale à Calgary (Alber-



Mme Doris L. Goodwin
directrice des Communications

ta), sa ville natale. Diplômé de l'École dentaire de l'Université de Toronto en 1945, il fait partie du Conseil de direction de l'Association dentaire de l'Alberta depuis 1963 et en a été président en 1969-1970. De plus, il donne des cours à la Faculté de dentisterie de l'Université de l'Alberta.

En 1969, il était nommé membre du Collège royal des dentistes du Canada.

Nouveaux membres

Le Dr Marvin Klotz est un dentiste pour enfants possédant un cabinet privé à Willowdale, dans la banlieue de Toronto (Ontario).

Diplômé de l'Université de Toronto en 1960, il est un écrivain remarquable qui a mis son talent au service de plusieurs publications professionnelles sous le titre de rédacteur en chef. Ainsi il a rédigé des bulletins pour la Société dentaire de l'Est de Toronto, la Fraternité Alpha Omega, la Société ontarienne de dentisterie préventive, le Chapitre de l'Ontario et la Société canadienne de dentisterie pour enfants.

Tout récemment, il agissait comme rédacteur en chef du Journal de l'Association dentaire de l'Ontario.

Le Dr Klotz est présentement rédacteur en chef du Bulletin de la Société canadienne de dentisterie pour enfants en Ontario.

Il a également écrit plusieurs articles qui ont paru dans le Journal de l'Association dentaire canadienne et dans celui de l'Association dentaire américaine.

Ancien membre du Conseil exécutif et ancien président de la Société des dentistes pour enfants en Ontario, le Dr Klotz a en outre présidé les Comités des relations publiques et des communications de l'Association dentaire de l'Ontario. De plus, il a fait partie du Comité éditorial et du Conseil d'administration de cette dernière association.

Par ailleurs, il est attaché au Département de pédodontie de l'Université de Toronto, à l'*Hospital For Sick Children* de Toronto et à l'Hôpital général d'Etobicoke.

Enfin, il est membre du Collège royal des dentistes du Canada depuis 1967.

Le **Dr James D.R. Grier** est diplômé de l'Université de Glasgow, en Écosse.

Il est venu pour la première fois au Canada en 1964, alors qu'il devenait membre de l'Association Grenfell de Terre-Neuve en tant que praticien dentaire général.

De retour en Écosse en 1965, le Dr Grier a exercé à Glasgow jusqu'en 1971. Il est alors revenu au Canada, a fréquenté l'Université de Toronto et a obtenu son doctorat en chirurgie dentaire en 1972.

Voulant établir une pratique générale, son choix s'est porté sur Victoria Colombie-Britannique).

Membre du Collège des chirurgiens dentistes de la Colombie-Britannique, il a fait partie de son Conseil de 1980 à 1982.

Par ailleurs, il est membre de la Société dentaire de Victoria et de la région environnante, de la Société des études sur l'occlusion et de l'*American Equilibration Society*.

Dernièrement, le Dr Grier a fait partie du jury qui présidait les très longs débats disciplinaires au sujet du



Les membres du nouveau Conseil éditorial examinent un exemplaire du Journal de l'ADC. Ce sont, assis et de gauche à droite: le Dr Alexander MacLeod, président; Clarence Metcalfe, rédacteur en chef; et debout, dans le même ordre: les Drs A. D. Sparrow, James D. Grier et Marvin Klotz.

Collège des chirurgiens dentistes de la Colombie-Britannique.

M. Clarence Metcalfe, nouveau directeur en chef du Journal de l'ADC, détient un diplôme en journalisme de l'Université Carleton, à Ottawa (Ontario).

Né dans la région d'Ottawa, il a été journaliste, chroniqueur, spécialiste en journalisme éducationnel, rédacteur d'un hebdomadaire, de revues commerciales et d'une revue de spectacles.

Naguère membre de l'équipe éditoriale de *The Ottawa Journal*, il était chargé d'en rédiger la revue hebdomadaire portant sur les spectacles et la télévision.

M. Metcalfe s'est joint à l'ADC en avril 1982 à titre de rédacteur en chef du Journal.

Mme Doris Goodwin, la nouvelle rédactrice des Communications, s'est jointe à l'ADC le 2 février dernier.

Elle s'occupe de relations publiques depuis dix ans.

Originaire de Thunder Bay (Ontario), elle s'est établie à Ottawa en 1973, a étudié à l'Université d'Ottawa et au Collège Algonquin, et a travaillé pour diverses associations nationales dont certaines s'intéressaient surtout à la santé.

En 1977-1978, elle était agent d'information pour l'Association canadienne d'hygiène publique et, de 1978 à 1983, agissait comme coordinatrice des relations publiques pour l'Association pulmonaire du Canada.

Mme Goodwin a fait du bénévolat pour le compte de la Société canadienne des relations publiques, à Ottawa, à titre de vice-présidente du Comité des relations publiques, de membre du Conseil de direction et de présidente de l'Agrément. Présentement, elle préside le Comité des activités spéciales pour la Conférence nationale 1984 de la SCRP.

Sondage auprès de nos lecteurs

Le Journal de l'Association dentaire canadienne comprend un éditorial, des lettres adressées à la rédaction, six à huit pages de nouvelles susceptibles d'intéresser les dentistes du pays, environ le même nombre de pages consacrées à des articles portant sur des sujets importants pour les membres de la profession (procès-verbaux, nouvelles méthodes de gestion des cabinets, nouvelles dispositions fiscales, etc.), à peu près sept pages réservées aux rapports cliniques soumis principalement par des Canadiens et de neuf à douze pages d'articles scientifiques également écrits par des Canadiens. Les chroniques régulières comportent un rapport des publications et articles disponibles à la bibliothèque sur un sujet donné, des comptes rendus sur des publications récentes (environ deux pages), un calendrier des assemblées au Canada et à l'étranger (environ deux pages également) et des petites annonces.

Tous les articles et rapports qui représentent une importance et un intérêt généraux sont publiés dans les deux langues.

La publicité occupe environ le tiers de l'espace du Journal entier.

Présentement, nous essayons de fournir des renseignements d'intérêt personnel et professionnel pour tous nos lecteurs. Afin d'améliorer le Journal, nous aimerons savoir si nos efforts atteignent ou non leurs objectifs.

Nous vous demandons donc de répondre au questionnaire suivant avec franchise. Il va de soi que vous pouvez le faire anonymement si vous le désirez, mais nous vous prions instamment de le remplir.

QUESTIONNAIRE

1. Qu'est-ce qui vous plaît le plus présentement touchant la présentation et le contenu du Journal?

.....

.....

.....

2. Qu'est-ce qui vous déplaît le plus dans le Journal actuellement?

.....

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3. Quelles sont les changements que vous proposez?

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.....

.....

4. D'Après vous, quel doit être le rôle du Journal?

.....

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.....

Si vous avez besoin de plus d'espace pour vos réponses, veuillez utiliser des feuilles séparées.

Faites parvenir le questionnaire à:

La rédaction
Le Journal de l'ADC
L'Association dentaire canadienne
1815, promenade Alta Vista
Ottawa (Ontario) K1G 3Y6

En bref —

L'Association dentaire de l'Île-du-Prince-Édouard a récemment été sollicitée par des représentants officiels du gouvernement provincial pour légaliser la fabrication des prothèses dans cette province.

D'après le Dr R. D. Wenn, secrétaire-trésorier de l'association, l'Île-du-Prince-Édouard est la seule province du Canada où la fabrication des prothèses est interdite.

La première rencontre entre des représentants de l'Association dentaire de l'Île-du-Prince-Édouard et des représentants du gouvernement a eu lieu à la fin de février.

"D'autres discussions auront lieu," a déclaré le Dr. Wenn.

Pour la première fois l'an dernier, les représentants de tous les ordres professionnels dentaires provinciaux du Canada ont tenu une assemblée.

À Montréal, le 10 décembre 1982, avait lieu en effet la Conférence des ordres professionnels dentaires du Canada. La discussion a porté sur les lois dentaires provinciales et sur d'autres sujets d'intérêt commun.

"C'est la première fois que ce groupe tient une assemblée officielle," a déclaré le Dr Ken Pownall, secrétaire général du Collège royal des chirurgiens dentistes de l'Ontario.

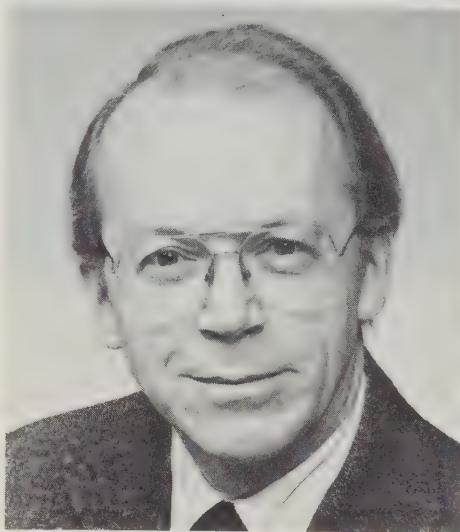
Les participants comprenaient les présidents ou les secrétaires généraux de chacun des ordres professionnels provinciaux.

Cette assemblée inaugurale a eu lieu sous l'égide de l'Ordre des dentistes du Québec. Des dispositions ont été prises pour faire de la Conférence un événement annuel.

Le ministère de la Santé et du Bien-être a annoncé, récemment, que le gouvernement fédéral versera une somme de 1 469 138 \$ en contributions diverses pour soutenir 26 projets dans le domaine de la santé au Québec.

Une des contributions, qui s'élève à

17 763 \$, ira au département de santé communautaire de l'hôpital Sainte-Justine, à Montréal, et servira à produire du matériel didactique sur la santé dentaire des enfants handicapés physiquement.



Le Dr Bruce Ross

Le Dr R. Bruce Ross, orthodontiste attaché à l'*Hospital For Sick Children* de Toronto, est le nouveau président de la Société crânio-faciale du Canada.

C'est la première fois, depuis six ans que la société a été fondée, qu'un dentiste en est nommé le président. Le Dr Ross s'est vu confier un mandat de deux ans.

La Société crânio-faciale du Canada est un corps multidisciplinaire qui se voue à "la recherche et au traitement des patients, surtout les enfants, dont la figure est gravement déformée," a déclaré le Dr Ross.

La société s'intéresse principalement aux enfants avec des becs-de-lièvre et des fissures palatines ainsi que d'autres anomalies faciales congénitales associées à ces problèmes.

Le Dr Ross est l'un des 30 dentistes qui font partie de la société et qui sont pour la plupart des chirurgiens dentistes ou des orthodontistes. La société compte présentement une centaine

de membres, dont des chirurgiens plasticiens, des orthophonistes, des ophtalmologistes, des gardes-malades, des travailleurs sociaux, des psychiatres ainsi que des dentistes praticiens généraux ou spécialistes.

Dans l'un de ses bulletins, la Ligue canadienne de la santé signale que le Centre international de recherche sur le cancer (CIRC), après avoir révisé 18 enquêtes, n'a découvert aucun lien entre la fluoruration et le cancer.

Le CIRC en est arrivé à la conclusion décisive suivante:

"Les différences tant géographiques que saisonnières de la teneur en fluor dans les réserves d'eau potable n'ont fourni aucune preuve voulant qu'il y ait un lien entre l'ingestion de fluor et le taux de mortalité due au cancer chez les humains."

La valeur de l'une des bourses offertes chaque année par le Fonds canadien pour l'enseignement dentaire a été augmentée.

Le président du FCED, le Dr David K. Peters, a déclaré que, dès cette année, "la valeur de la bourse décernée à un professeur dentaire enseignant dans une université sera portée à 2 500\$."

Au cours des dernières années, cette bourse n'était que de 2 000\$. Accordée pour la première fois en 1971, elle n'était alors que de 1 500\$.

Cette bourse a pour but de permettre à un professeur de l'une des dix écoles dentaires du Canada de rafraîchir ou d'étendre ses connaissances dans un domaine de l'éducation ou de la recherche dentaire.

La bourse est un don de la firme *Warner Lambert Canada Inc.*

Pour obtenir des renseignements complets au sujet de cette bourse, on s'adressera aux doyens des écoles dentaires ou au FCED (44 Eglinton Ave. W., Suite 205, Toronto, Ontario, M4R 1A1).

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♦♦♦♦♦♦♦♦

Un dentiste canadien, le Dr Donald F. Ebdon, de Chilliwack (C.-B.), s'est vu décerner récemment un fellowship de la société américaine d'endodontie.

Diplômé de l'Université de l'Alberta en 1965, le Dr Ebdon a occupé tous les postes administratifs de la société dentaire de la Vallée du Fraser et il a été, pendant trois ans, examinateur du Collège des chirurgiens dentistes de la Colombie-Britannique.

Le Dr Ebdon a son propre cabinet de pratique à Chilliwack (C.-B.).

♦♦♦♦♦♦♦♦

Un dentiste torontois, le Dr Gordon Perlmutter, vient d'être élu président international de la Fraternité dentaire internationale Alpha Omega.

Le Dr Perlmutter est un praticien général et un professeur clinique attaché à la Faculté dentaire de l'Université de Toronto.

Au service de la Fraternité depuis 35 ans, il a de plus été élu membre du Collège international des dentistes en 1982. Il a déjà été président de la Société dentaire du district nord de Toronto et du Groupe d'étude des couronnes et des bridges de l'Académie dentaire de Toronto. Enfin, il est membre du Comité de l'éducation dentaire de l'ADC.

Le Dr Perlmutter a obtenu son diplôme de l'Université de Toronto en 1950.



Le Dr Gordon Perlmutter

La Fraternité Alpha Omega compte 18 000 membres à travers le monde. Elle se voue à l'hygiène, à la recherche et à l'enseignement en rapport avec la dentisterie.

♦♦♦♦♦♦♦♦

Appelez le président

Pour ceux qui n'auraient pas encore profiter de l'invitation, le président de l'ADC, le Dr William R. Thompson, pourra être rejoint par téléphone à deux autres occasions très bientôt.

Le 19 avril et le 7 juin prochaine, le Dr Thompson attendra vos appels pour que vous lui fassiez part de vos opinions, de vos recommandations ou de vos demandes touchant des questions particulières.

Les jours indiqués, le président acceptera vos appels entre 8h 30 et 16h 30, heure normale de l'Est le 19 avril et heure avancée le 7 juin. Veuillez composer le (613) 523 1770, en ayant soin de faire virer les frais, et demandez tout simplement le président de l'ADC.

On vous demande de n'aborder qu'un seul sujet et de limiter la conversation à cinq minutes afin de permettre le plus grand nombre d'appels possible.

Les patients qui ont une peur majeure du dentiste peuvent maintenant recevoir de l'aide spécialisée pour vaincre leur crainte.

En effet, une clinique de phobie dentaire, probablement la seule de ce genre aux États-Unis, et peut-être en Amérique, existe depuis trois ans à l'hôpital Mount Sinai, à New-York.

Elle est dirigée par le Dr J. Gordon Rubin, professeur associé d'enseignement clinique à la faculté de médecine de Mount Sinai et dentiste de service à l'hôpital.

Depuis son ouverture, la clinique a traité plus d'une centaine de patients qu'elle a aidés à surmonter la crainte du dentiste ou du traitement dentaire.

Les patients, qui doivent avoir plus de 16 ans, reçoivent un traitement individuel qui fait appel aux diverses techniques des sciences du comportement.

♦♦♦♦♦♦♦♦

Le colloque de 1982 de l'Association internationale de recherche dentaire, région *Pacific Northwest*, a eu lieu les 18 et 19 novembre derniers au centre de recherches en biologie buccale de l'Université de l'État de Washington. Il était parrainé par les facultés de médecine dentaire de Colombie-Britannique, de l'État de Washington et de l'État de l'Orégon.

Le programme comprenait trente communications de grande classe. Seize membres de la faculté de médecine dentaire de l'UCB y ont participé et huit y présentèrent une communication.

L'enthousiasme soulevé par ce genre de rencontres entre institutions a été tel que les participants ont fortement recommandé de les répéter annuellement à tout rôle. Ainsi, le colloque de 1983 aura lieu à l'Université de l'Orégon.

Les résines en dentisterie actuelle

Les 13 et 14 octobre 1982, un symposium international était tenu à Chapel Hill (Caroline du Nord) sur les résines composites pour la restauration des dents postérieures. Parainé conjointement par le Centre de recherche dentaire de l'Université de la Caroline du Nord et par la firme *D. Caulk Co.*, ce symposium avait pour but d'étudier la position actuelle de la profession touchant l'usage des résines composites pour la restauration des lésions carieuses, catégories I et II; de dénombrer les avantages et les inconvénients de leur usage; de désigner les points où orienter les recherches afin de résoudre les problèmes associés aux résines; et, finalement, de fournir un plan directeur pour les besoins futurs dans le domaine de la recherche afin que la résine devienne un matériau de choix pour la restauration des dents postérieures.

Le Dr J.W. Brown, professeur adjoint attaché au Département de dentisterie restauratrice de la Faculté dentaire de l'Université de Toronto, a participé au symposium. Voici le compte rendu qu'il en a fait.

Avantages
Au sujet des résines composites, voici les avantages qu'on leur reconnaît en général:

1. Esthétique

Une dent naturelle n'est pas de couleur argentée. Aussi, dans la société actuelle où prime l'esthétique, exige-t-on de plus en plus une apparence naturelle. Or, les restaurations à la résine composite offrent justement cet avantage.

2. Réduction de la conductivité thermique

Comparés aux amalgames, les résines possèdent un pouvoir de résistance thermique plus grand, éliminant le besoin des isolants de base et réduisant les réactions thermiques après la pose.

3. Elimination du galvanisme

Les résines n'offrent aucune prise au galvanisme et à ses effets nuisibles connus sur la pulpe dentaire.

4. Elimination de l'intoxication par le mercure

Les résines composites ne contiennent pas de mercure, éliminant les possibilités d'intoxication tant pour le patient que pour le dentiste et son assistante.

*par le Dr J.W. Brown
professeur adjoint
dentisterie restauratrice
Faculté dentaire de
l'Université de Toronto*

5. Pouvoir de liaison instantanée

Il est prouvé que les résines ont la vertu de se lier à l'émail des dents de façon instantanée, vertu qui s'accroît à l'usage. Plus particulièrement, le défaut microscopique d'étanchéité est considérablement réduit. En outre, M. Simonsen, de l'Université du Connecticut, a démontré qu'un matériau lié directement à l'émail peut accroître l'intégrité structurelle. Dans des essais effectués en laboratoire, il a préparé de jeunes prémolaires exemptes de caries pour des restaurations, puis les a divisées en quatre groupes:

- i — non restaurées
- ii — restaurées à l'amalgame
- iii — restaurées avec des résines composites
- iv — émail gravé, liaison à la résine, restauration avec une résine composite.

Les prémolaires ont ensuite été soumises à des pressions pouvant entraîner des fractures. Comparées aux autres restaurations, celles du quatrième groupe ont exigé des pres-

sions plus fortes, démontrant ainsi leur intégrité structurelle.

6. Pénurie des matériaux

Les résines ne sont pas sujettes aux pénuries autant que l'argent et le mercure. De plus, l'histoire prouve que le prix des résines est relativement stable comparativement à celui des deux métaux.

Inconvénients

Voici les inconvénients reconnus que présentent les résines. Ils ne sont pas donnés par ordre d'importance.

1. Défaut microscopique d'étanchéité

L'amalgame est doué d'un pouvoir d'auto-scellement là où il se joint à la dent grâce à une éventuelle accumulation de produits corrosifs qui gênent le passage des micro-organismes. Présentement, il est prouvé que seules les compositions à l'acide poly-acrylique ont un réel pouvoir d'adhésion chimique à la structure de la dent. Malheureusement, elles ne sont pas indiquées pour les restaurations fonctionnelles. Quant aux résines composites conventionnelles, étant donné qu'elles n'ont aucun pouvoir d'auto-scellement et d'adhésion chimique, leur défaut d'étanchéité peut être corrigé seulement avec des méthodes de mordantage. On obtient alors une liaison mécanique uniquement. Parce qu'il n'est pas censé avoir de prisme, l'émail de la partie cervicale d'une dent se prête mal au mordantage. Aussi le défaut microscopique d'étanchéité reste-t-il un problème pour les bords superficiels de cavité. En outre, au contraire des silicates, l'addition de fluorure pour rendre inertes les compositions à la résine n'entraîne pas un lent dégagement contrôlé des ions fluorurés qui, comme on le sait, ont le pouvoir de réduire les caries secondaires.

2. Temps de la pose

Comparativement à l'amalgame,

il faut beaucoup plus de temps pour effectuer une bonne restauration à la résine composite dans des conditions cliniques presque idéales, si l'on veut avoir des chances raisonnables de réussir.

3. Irritation de la pulpe

En principe, l'amalgame ne cause pas d'irritations pulpaires, ce qui n'est pas le cas pour les résines. Toute la dentine exposée du plancher pulpaire et des parois axiales des os proximaux doit être adéquatement protégée avec une couche d'hydroxide de calcium.

4. Sensibilité technique

i— Prosité

Toutes les résines sont poreuses à un certain degré, ce qui diminue la vertu de leurs propriétés physiques. Ainsi elles peuvent absorber de l'eau, résistent moins bien à l'usure et donnent une plus grande prise aux taches superficielles.

ii— Profondeur de la polymérisation

Pour les restaurations importantes, il se peut que la profondeur de la polymérisation avec des résines composites polymérisées avec une source lumineuse visible ou ultraviolette ne soit pas adéquate, si l'on n'a pas recours à une polymérisation par couche.

iii— Techniques de finissage

Pour les résines composites, les techniques de finissage sont nombreuses et variées, mais aucune ne fournit une couche superficielle de qualité optimale. Ces techniques ne sont sans doute pas aussi au point ou aussi bien acceptées que celles pour l'amalgame.

iv— Adaptation marginale

L'adaptation marginale constitue un point particulièrement critique pour les compositions à la résine. On éprouve beaucoup de difficulté à ce sujet à cause de la transparence de la résine, surtout avec les microfilms.

5. Propriétés

i— Coefficient d'élasticité

Il serait préférable que les résines composites possédassent un coefficient d'élasticité plus élevé de manière à réduire les déformations sous les pressions, celles-ci pouvant entraîner la rupture de la liaison mécanique ou adhésive.

ii— Coefficient d'expansion thermique

Le coefficient d'expansion thermique des résines est plus grand que celui des amalgames. Toutefois, les résines composites auraient un meilleur rendement si leur composition ressemblait davantage à la structure de la dent.

iii— Permanence de la couleur

La permanence de la couleur reste douteuse pour toutes les résines composites, bien que la polymérisation avec une source lumineuse visible puisse apporter une amélioration à ce point de vue.

iv— Radio-opacité

La plupart des résines de fabrication commerciale ont une radio-opacité insuffisante. La radio-opacité est importante pour deux raisons:

- a) pour bien reconnaître les contours proximaux,
- b) pour déceler les caries, ce qui exige une bonne définition des contours internes.

v— Sensibilité à la dégradation chimique

Le régime alimentaire moyen contient des produits chimiques comme de l'éthane, de l'acide acétique, etc. Ces produits peuvent agir et agissent comme agents plastifiants ou amollissants sur la gangue des résines, accélérant l'usure.

vi— Usure

Actuellement, le seul défaut majeur des résines est la modification des contours anatomiques causée par l'usure.

Sortes d'usure

- A. Macrofilms conventionnels (taille moyenne des particules: de 10 à 20 microns)

Avec les résines d'obturation à particules de grande taille (comme les résines *Adaptic*), le contour se perd de façon constante, progressive et uniforme. Il s'agit d'un phénomène analogue à celui de la baisse du niveau de l'eau dans une boîte de conserve dont le fond est perforé. Pour les résines composites, on fait appel au silane comme agent de liaison entre les particules céramiques et la gangue de la résine, méthode de liaison qu'on appelle "le talon d'Achille" des résines composites. Un défaut de liaison au silane peut entraîner "l'arrachement" des particules céramiques de la surface résineuse, d'où une usure plus rapide. Des recherches sont faites actuellement pour améliorer cette méthode de liaison et les premiers résultats obtenus avec un nouveau produit chimique sont encourageants.

B. Microfils (taille moyenne des particules: 0,5 micron)

Les résines composites dont les particules sont de taille inférieure à 1 micron (comme les résines *Kulze* ou *Durafil*) s'usent différemment. La perte du contour anatomique sur le bord superficiel des cavités est moindre que celle qui se produit avec les résines conventionnelles, mais l'usure de l'arête marginale et des points de retenue centriques sur la surface occlusale est plus prononcée.

Progrès actuels touchant l'usure

Les recherches actuelles visent à créer des particules d'obturation de forme et de taille plus uniformes afin de doter les résines composites d'une plus grande homogénéité. De plus, on est en train d'éprouver des méthodes pour accroître la densité des particules d'obturation de manière à n'exposer que de 0,1 à 0,2 microns de la gangue résineuse interstitielle. Celle-ci étant alors moins exposée à l'abrasion, on prévoit que la résine composite résisterait mieux à l'usure.

Autres conclusions

Touchant l'usure

1. Les particules céramiques dures (surtout celles qui sont au-dessous de 5 à 8 microns) diminuent la résistance à l'usure.
2. Les résines composites dont les particules sont de taille inférieure à un micron sont sujettes à des marques d'usures localisées et à des fractures.
3. Une porosité moins grande améliore la résistance à l'usure et, inversement, une porosité plus grande semble augmenter davantage l'usure. La porosité peut être causée par le procédé de fabrication, par le modelage à la spatule ou par des techniques d'insertion. M. Wilder, de l'Université de la Caroline du Nord, a démontré les conséquences de la porosité sur l'usure dans des essais cliniques qui comparaient la résine *Nuvalfil* à la résine *Nuvalfil PA*, celle-ci étant une nouvelle variante polymérisée avec une source lumineuse visible. Cette dernière résine offre une meilleure résistance à l'usure. Des recherches ont révélé que la résine *Nuvalfil* est poreuse à cause d'un procédé de fabrication différent et on a conclu que son pouvoir inférieur de résistance est causé par sa porosité.
4. Les résines photo-polymérisées résistent mieux à l'usure que les résines auto-polymérisées.

Exigences pour l'avenir

Pour que les résines composites deviennent des matériaux de choix pour la restauration des lésions carieuses des dents postérieures, catégories I et II, il faudra qu'elles répondent aux exigences suivantes:

1. Adhésion chimique

Une adhésion réelle par liaison primaire ou secondaire à la structure dentaire modifierait les façons conventionnelles de préparer les cavités

en éliminant le besoin d'une rétention mécanique. De plus, elle assurerait une plus grande permanence et satisferait aux besoins esthétiques en éliminant les défauts microscopiques d'étanchéité.

2. Propriétés améliorées

- a) Meilleure résistance à l'usure,
- b) Radio-opacité accrue,
- c) Pouvoir anti-cariogène,
- d) Formules résineuses hydrophobes,
- e) Permanence de la couleur.

3. Méthodes de pose améliorées

La profession a besoin de matériaux et de techniques qui sont aussi sûrs que possible afin de mieux savoir comment se comporteront les restaurations des dents postérieures à la résine composite.

4. Méthodes améliorées pour les essais *in vitro* et les évaluations *in vivo*.

Conclusion

La plus grande partie des lésions carieuses des dents postérieures, catégories I et II, sont restaurées avec des amalgames ou des métaux coulés. Avec les résines composites, on voudrait offrir non un substitut aux amalgames, mais un troisième choix valable. Présentement, les résines n'ont pas encore été agréées par l'ADA pour la restauration des dents postérieures et, au symposium, personne n'a voulu défendre leur usage quotidien. Toutefois, l'avenir s'annonce prometteur et on prévoit continuer à apporter des améliorations aux résines composites. Le dentiste avisé aura soin de surveiller les progrès accomplis dans ce domaine et de s'assurer que les vertus des résines composites pour la restauration des dents postérieures ont été éprouvées avant de les utiliser pour leurs patients.

DIRECTEUR DE L'AGRÉMENT L'Association Dentaire Canadienne

Une association professionnelle nationale, dont le siège social se trouve à Ottawa, est à la recherche d'un directeur de l'agrément. Les responsabilités attachées au poste comprennent la planification et la coordination de toutes les enquêtes d'agrément effectuées dans les écoles dentaires et les services dentaires hospitaliers du Canada. Le ou la titulaire devra également coordonner les activités ayant trait aux conseils et comités des soins de santé et des matériaux dentaires.

EXIGENCES: Les candidate(s) doivent posséder un diplôme en médecine dentaire recommandé au Canada.

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M. Hubert Drouin, Directeur général
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Clinical evaluation of composite resin and amalgam posterior restorations: Two year results

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ABSTRACT

Children attending the U.B.C. summer clinic received right-to-left pairs of composite resin and silver amalgam restorations in primary and permanent posterior teeth. Two years after insertion, 104 amalgam and 121 composite resin restorations were evaluated clinically, using a portable light source and explorers in school health rooms. It was found that 86.5 per cent of the amalgams and 56.1 per cent of the composite resins were free of defects. Occlusal wear of the composite resins accounted for almost 25 per cent of their defects. Therefore, after two years, the performance of amalgam is clearly superior to composite resin in posterior teeth.

In a previous report,¹ a new composite resin was compared with amalgam in the posterior teeth of children and adolescents. These one-year findings indicated that the two materials were comparable. The purpose of this paper is to report on the evaluation of the clinical performance of these two restorative materials in Class I and Class II posterior cavities after two years.

Materials and Methods

Using a half mouth technique, 101 children received right-to-left pairs of composite and silver amalgam restorations in both primary and permanent posterior teeth. The teeth were prepared for both materials by final-year dental students working at the University of British Columbia, Summer Clinic. Standardized procedures were followed: rubber dam, 90° cavo-surface margins, removal of unsupported enamel, mechanical matrix with wedge, etc. The materials used were capsulated Dispersalloy* and Profile†. The amalgam capsules were mechanically tri-

SOMMAIRE

Dans une clinique d'été tenue par l'Université de la Colombie-Britannique, des enfants ont eu des dents postérieures, supérieures et inférieures, restaurées par paire, à droite et à gauche, avec de la résine composite et de l'amalgame d'argent. Deux années plus tard, on a examiné 104 de ces restaurations à l'amalgame et 121 à la résine composite, à l'aide d'une source lumineuse portable et de sondes. On a découvert que 86,5 pour cent des premières et 56,1 pour cent des secondes ne présentaient aucun défaut. Dans le cas des restaurations à la résine composite, presque le quart des défauts dépendait de l'abrasion occlusale. Aussi, après deux ans, l'amalgame se révèle-t-il supérieur à la résine composite pour les dents postérieures.

turated, condensed, carved, and finished by the individual operators.

One operator dispensed, mixed and directed the insertion of all Profile restorations following the manufacturer's instructions. A 30 per cent orthophosphoric acid etch was placed on dried surface enamel for 90 seconds. Following washing and drying, the preparation and surface enamel were coated with the bonding agent. Using a syringe, the composite was placed in the preparations to a slight overfill and left for 3-5 minutes for curing. The matrix was removed and the composite trimmed with 12-bladed burs as indicated by the individual occlusion. Central fossae were not accentuated and no attempt was made to include supplemental grooves. Postoperative bite wings were taken for all interproximal restorations.

Using mouth mirror, portable light and explorers, the restorations were evaluated two years after placement by one clinician in school health rooms. Criteria for evalua-

*Johnson & Johnson Co.
 †S.S. White Co.

TABLE 1

Criteria for evaluation of amalgam and composite restorations

Criteria	Description
1. Sound	Functional, without defects
2. Chipped margin	Void, due to loss of material or enamel
3. Fractured	Detectable fracture through the material
4. Occlusal wear	Visible facets or dishing out
5. Caries	Caries at margins of restoration
6. Needs replacing	Extensive defect, large void, no contact
7. Replaced	Original restoration has been replaced
8. Margin discoloration	Discoloration between restoration and enamel
9. Occlusal wear and discoloration	Combination of 4 and 8

tion are described in **Table I**. Bite wing radiographs were taken for those children who had interproximal restorations. The radiographs were evaluated independently by two of the authors, and when discrepancies occurred they were resolved by consultation. The criteria for radiographic evaluation of the restoration were sound (free of radiographic defects), gingival overhang, poor contour, caries and failed (needs replacing or replaced).

RESULTS

Two years after insertion, 121 composite resin and 104 amalgam restorations were evaluated in the posterior primary and permanent teeth of 65 children (**Table II**). The composite resin restorations included 68 occlusals, 12 buccals or linguals, 17 occlusal buccals or occlusal linguals, 17 Class II's and 7 three or more surfaces. The amalgam restorations included 54 occlusals, 9 buccals or linguals, 18 occlusal buccals or occlusal linguals, 16 Class II's and 7 three or more surfaces. All of the study restorations had been placed in fully erupted teeth in occlusion.

Of the 121 composite resin restorations, 69 (56 per cent) had no defects at the two-year evaluation. Of the 104 amalgam restorations evaluated, 90 (86.5 per cent) were free of defects (**Table III**). Thirty (25 per cent) of the composite resin restorations demonstrated clinically detectable wear, and 12 of these 30 also had marginal discoloration. A further 15 restorations had margin discrepancies (nine chipped margins, six discolored margins). Seven composite resin restorations were failures (two needed replacing and five had been replaced), compared with four amalgam restorations (three needed replacing, one replaced). Of the Class II restorations that were evaluated radiographically, 16 were amalgam and 17 were com-

TABLE II

Amalgam and composite restorations evaluated clinically two years after restoration

Material	SURFACES						TOTAL
		1	2		3	4	
	Occlusal	Buccal and lingual	O-B and O-L	Class II			
Amalgam	54	9	18	16	5	2	104
composite resin	68	12	17	17	6	1	121

TABLE III
Two-year results

	Sound	Margins	Wear	Failed	Total
Amalgam	90	10	0	4	104
Composite	69	15	30	7	121

posite resin. Ten of the composite resin restorations were sound, with four showing concave proximal contour. Fourteen of the amalgam restorations were sound, while two had gingival overhangs. One of the composite resin restorations had secondary caries on the gingival margin and two others had either been replaced or needed replacing.

DISCUSSION

The two-year findings indicate that the composite resin Profile, is no longer comparable to the dispersed phase copper amalgam, Dispersalloy (**Fig 1**). Of particular note is the finding that 25 per cent of the composite resin restorations displayed clinically detectable occlusal wear.

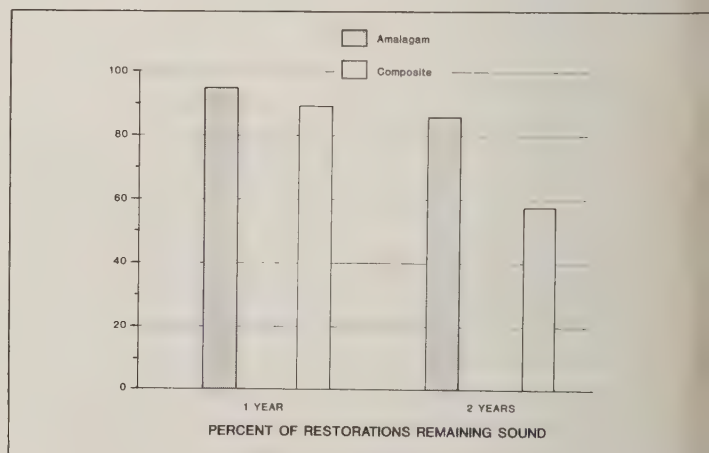


Fig. 1. Comparison of composite resin and amalgam restorations that were sound at one- and two-year evaluation times.

Marginal discoloration was not evaluated on the amalgam restorations because of the inherent difficulties involved. However, marginal discoloration of the composite resin restorations was easily detected clinically. The composite resins were placed, using acid etch-bond technique. The finding that 12 composite resin restorations had marginal discoloration (which is an indication of marginal leakage) indicates failure to maintain the bond of the composite resin to the enamel. This finding may be related to the cavity preparation (standard amalgam preparation) and the method of finishing. Clinicians who have had experience finishing composite resin restorations with 12-bladed finishing burs will appreciate the difficulty of being able to judge when enamel or resin is being finished. Therefore, it is possible that some of the restorations were over finished, leaving the bond weakened or obliterated.

In this study, the Class II composite resin restorations performed slightly better than the other composite resin restorations. Of interest is the finding that loss of proximal contour did not seem to be a problem as with the earlier composite resins.² However, any conclusions must be guarded because of the small number of Class II composite resin restorations that were evaluated. **Figure 2** shows a composite resin with concave proximal contour on the distal of tooth #55, and good proximal contour on the mesial surface of tooth #16. **Figure 3** illustrates a composite resin restoration that has failed due to caries on the occlusal of tooth #46; note, however, that the proximal contour is acceptable.

At the two-year evaluation, the finding that occlusal wear is a problem is in agreement with the two-year findings of Tonn et al,³ but not with those of Nelson et al.⁴ However, the three-year findings of Nelson and his colleagues did show that the composite resin had significant occlusal wear in primary molars.

The clinical evaluation of the composite resin restorations will be continued at yearly intervals.

SUMMARY

One hundred and four posterior amalgam restorations and 121 posterior composite resin restorations were evaluated after two years, and it was found that 86.5 per cent of the amalgams and 56.1 per cent of the composite resins were free of defects. Occlusal wear of the composite resins accounted for almost 25 per cent of the defects. After two years, the performance of amalgam is clearly superior to the composite resin in posterior teeth.

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Reprint requests to Dr. Derkson.

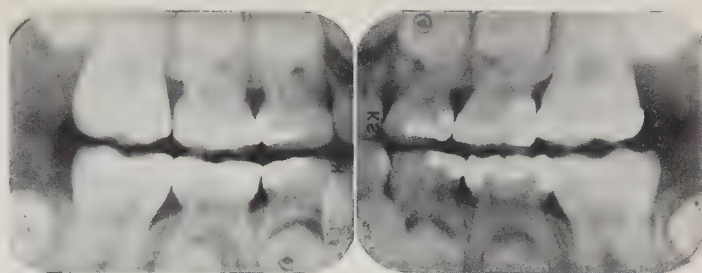


Fig. 2. Class II restorations in 16 MO and 55 DO are composite resin and 65 DO and 26 MOD are amalgam. Note deficient proximal contour of tooth #55 distal.

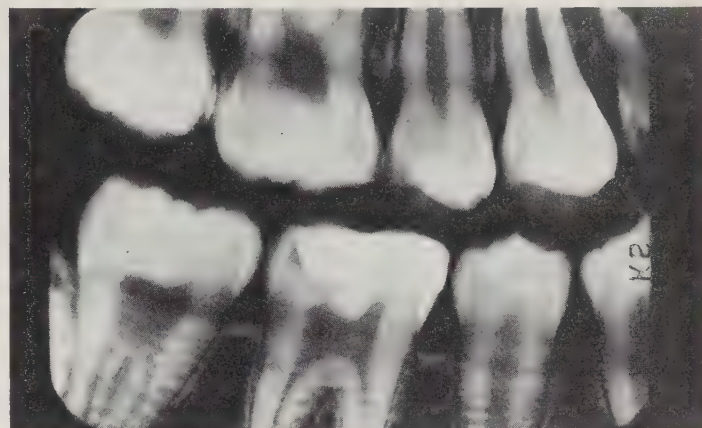


Fig. 3. A composite resin Class II in tooth #46. Caries is present at the distal wall and pulpal floor.

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Marketplace

Offices and Practices

BRITISH COLUMBIA — For sale: Well established, busy, preventive practice. Two, modern-equipped, restorative plus hygiene operatories. Situated in professional building. Located in Southern B.C. fruit growing area offering hunting, fishing, skiing, etc. Reasonably priced \$93,500. Reply to CDA Box Number 2080.

SOUTHERN BRITISH COLUMBIA — Established dental practice for sale. Three operatories with hygiene facility. Apartment included. Desirable family location. Call Dr. Don Neufeld (604) 765-9615 or Dr. Gerry Just (604) 765-1188.

BRITISH COLUMBIA — Office for sale in downtown Vancouver. High gross active practice, 2 fully equipped operatories, lab, staff room, large reception area. Room for expansion. Owner entering early retirement. Reply to CDA Box #2153.

BRITISH COLUMBIA — Gold River. High gross, high potential practice for sale. Modern four operatory office (three operatories equipped). This practice serves a population of over 4,000. Originally established as a satellite practice. Contact: Dr. S. Miller, 500 Nimpkish Drive, P.O. Box 910, Gold River, B.C. V0P 1G0 or phone: (604) 283-7422.

BRITISH COLUMBIA — Nelson — Diversified family practice with preventive wholistic approach in small University town amid beautiful mountain lake scenery. Emphasis on relaxed informal atmosphere in handcrafted artistically designed modern office of 1200 sq. ft. Good income with moderate overhead. Excellent opportunity for caring individual to take over in Spring 1983. For further information and reasonable terms write CDA Box #2145.

BRITISH COLUMBIA — Vancouver Island. Half of entire practice for sale. Busy preventive rural practice, all aspects dentistry. Drawing area 4500. Only practice in area. Two operatories, plumbed for four. Panelipse, Nitrous Oxide, Hospital privileges available. Building four years old. Superb fishing area, hiking, 75-85% insurance. Reply to CDA Box 2156.

BRITISH COLUMBIA — Greater Vancouver. Two new and spaciouly attractive practices for sale (shared in one office) in White Rock, 30 minutes from downtown Vancouver. High gross, low overhead, modern 5 operatory (3 fully equipped), full lab, staff room, private office, panelipse, etc. Can be purchased separately or combined. Excellent opportunity for one or two dentists in an area with great growth potential. Only 15 months old — dentists returning to school. For details contact: Oceanside Dental Clinic, 201-13761 16th Ave. South Surrey B.C. V4N 1N2, 604-531-5222, Dr. Tom Weir, Dr. Ken Blankstein.

BRITISH COLUMBIA — Vancouver. Periodontal practice for immediate sale. Minimal cash outlay necessary. Phone (604) 738-3147 eves.

BRITISH COLUMBIA — Vancouver. Modern two operatory (fully equipped) office for sale with lab, staff room and large reception area. Next to bank and to busy suburban shopping plaza. High gross, lots of new patients. Reply to CDA Box #2154.

BRITISH COLUMBIA — Victoria. Eight year old family practice. High gross. 4-day week. Receptionist, CDA and hygienist. Three modern operatories, panelipse. Dentist going to graduate school Fall 1983. Serious inquiries only. (604) 479-0682.

ALBERTA — Calgary. 1200 sq. ft. office location with lease holds and some equipment for sale. Downtown location in established professional building. For information contact: Dr. D. S. MacLean, #48, 1812-4th St. S.W. Calgary Alberta, T2S 1W1.

ALBERTA — Edmonton. For sale: Well established modern 4 operatory office (2 completely equipped) with lab, private office, dark room and receptionist's area. Will stay to introduce. Reply to CDA Box No. 2157.

ALBERTA — Pincher Creek. Practice for sale. Owner wishes to return to school. Opportunity for one or two dentists. Any combination of practice, building, equipment etc. offered. Very reasonable terms. Phone: (403) 627-3290.

SASKATCHEWAN — A well established, very busy dental practice in a

thriving smaller Saskatchewan city available immediately — assistance with financing. Owner recently deceased. 3-operatory set-up. Room for expansion. Excellent opportunity for one or two dentists. Recreation facilities well balanced. Contact Mrs. Hazel Walters, 306-728-2670, 306-728-5712.

MANITOBA — Active OMS. In Winnipeg Canada for sale. Surgeon retiring well established, well equipped — 1200 sq. feet. Flexible financing. Will stay to introduce. Reply to Box #2155.

ONTARIO — Oral and Maxillofacial surgery practice for sale. Excellent location and facilities. Please reply Box #2146.

ONTARIO — London. Experienced dentist wishes to buy a practice in London or associate in London with a buy-in opportunity. Reply to CDA Box #2148

ONTARIO — Ottawa. Beautiful dental practice for sale immediately or for June 1983. Well established preventive family practice with 2,200 active files. 70-80% insurance. Emphasis on quality restorative dentistry and crown and bridge. 950 sq. ft. per floor (2 floors) clinic for sale or rent. Dentist relocating 25 miles away. Call Carmen (613) 235-6627 or 837-3443.

ONTARIO — Toronto. (45 minutes north of Toronto) Opportunity to purchase exceptional quality progressive family practice with large patient flow. Very high gross and net earnings with low overhead. A first class well equipped facility with potential for further expansion. Owner wishes to move to another city. Reply CDA Box #2147.

NORTHERN ONTARIO — Excellent opportunity to purchase progressive general practice in desirable tourist area. New community sponsored facility, very well equipped. Low overhead, high gross and excellent staff. Please reply to CDA Box #2144.

QUEBEC — Clinique dentaire a vendre. Ile de Montréal-Près du métro. Cause: maladie. Bassin de population environ 400 milles: Même adresse, même no de telephone depuis près de 30 ans, bail de 10 ans, prix raisonnable, bons revenus. Décoration moderne, 1600 pieds carrés, 10 pièces, tapis, climatisation. Possibilité de 2 ou 3 dentistes. Appareils panoramiques et péri-apical, 4 salles équipées pour D.O. Salle de chirurgie, salle de repos, 2 laboratoires, bureau privé, cavitron, prophyljet, polycopieuse, secrétariat, salle de démonstration pour projet de traitement. Le vendeur peut rester locataire ou actionnaire pour une durée discutable. Acheteur sérieux seulement. Adressez-votre demande a l'ADC Journal P.O Box 2149

QUEBEC — MONTREAL — Clinique moderne à Montréal. Plaza Côte des Neiges. Service de secrétariat Mardan, deux (2) salles opératoires système Cox, installés, deux Heliodont Siemens, deux autres salles avec plomberie finie, laboratoire. Stationnement et autres avantages. Idéal pour deux jeunes dentistes. Appelez au (514) 472-1670.

Associateship Available

NORTHWEST TERRITORIES — An opportunity exists in an extremely pleasant and modern dental clinic in Yellowknife, Northwest Territories. A very high standard of dental work demanded with emphasis on prevention, patient teaching, and motivation. Pleasant surroundings with new modern equipment. Write or phone to Drs. H.A. Biati, H.M. Adam, Cameron Dental Clinic, Box 1025, Yellowknife, N.W.T. X1A 2P5, (403) 920-2225.

BRITISH COLUMBIA — We are looking for an associate to join our busy family practice in picturesque Revelstoke, British Columbia. Our established group offers a unique opportunity to practise high quality dentistry in a low stress environment. For information please call collect (604) 837-5149.

BRITISH COLUMBIA — Associate wanted. Mature individuals needed for large group practice in Prince George and surrounding area. Exceptional opportunity with excellent benefits. Interested persons please contact: Dr. Frank Lo or Dr. Richard Suen, 4122 — 15th Ave., Prince George, B.C. V2M 1V9.

BRITISH COLUMBIA — Fraser Valley. Part-time associateship with positive view to partnership. Reply in writing to CDA Box #2150.

ALBERTA — Associateships with possibility of partnership available in Edmonton and Calgary. Dental offices in conjunction with medical clinics. Contact Dr. Azarko, 14938 Stony Plain Road, Edmonton ph. (403) 483-7079.

ONTARIO — Associateship leading to partnership in busy S.W. Ontario modern, 5 chair established office. Please reply to CDA Box #2152.

ONTARIO — North of Toronto (45 minutes). Associateship available leading to a cost sharing partnership. Prevention oriented, modern, busy four year old practice. Reply in writing to CDA Box Number 2143.

ONTARIO — Oral and Maxillofacial Surgeon: Opportunity to associate or partnership, lease quality practice in high density area in Ontario. Owner will consider various forms of association. Excellent 10-year-lease in new modern office in extremely high traffic area. Complete confidence. Reply to CDA Box Number 2138.

Opportunities Available

BRITISH COLUMBIA — Certified Specialists. Large group practice for 21 dentists would like to expand services offered to include those of a periodontist and oral surgeon. Facilities include new building, 31 operatories, well established hygiene department employing 5 hygienists, fully equipped GA room, and computerized accounting services. Abundance of lakes, forests and mountains offer a wide spectrum of recreational activities. Persons interested please contact: Dr. Richard Suen or Dr. Frank Lo, 1122 — 15th Avenue, Prince George, B.C. V2M 1V9.

BRITISH COLUMBIA — Dentist required for four northwestern B.C. communities, population 4,000. Preventive approach preferred. Sailing, fishing, hunting, skiing, all schools are important amenities. A special dentist is needed to build a new, solo practice in a cross-cultural setting from the ground floor up, and to participate in a dynamic reorganization of a rural health system. Remuneration negotiable. Incentives can include equipment, travel expenses, a beautiful home. Start June 1983. Resume and references to: Alfred Fraser, Health Co-ordinator, Nishga Tribal Council, Administration Building, New Aiyansh B.C. V0J 1A0 Telephone: 604-633-2215, 604-633-2369.

BRITISH COLUMBIA — Burnaby. Periodontist required. Share space with endodontist. No periodontist in area of 80 dentists. Contact Dr. Arthur Young, 411, 5050 Kingsway, Burnaby B.C. V5H 4C2 or call 604-430-4240.

BRITISH COLUMBIA — Victoria-Sidney Area. Keen dentist with 22 very successful and happy years in preventative oriented family practice, with considerable clinical teaching experience, wants to purchase or associate in above area. Please Reply to CDA Box #2151.

ALBERTA — Edmonton. I am looking for a dentist to take over my practice from June 18th to August 27th with a possible full or part-time associateship after August 27th. I am a partner in a five dentist, quality, preventive oriented group practice. Please contact Dr Ken Strong, Bus. (403) 478-6691 or Res: (403) 458-7789.

NOVASCOTIA — Removable Prosthodontist. Excellent opportunity to join two established specialists (Fixed Prosthodontist and Periodontist) in excellent professional surroundings in Halifax Nova Scotia, Canada. Possibility exists to combine practice with part-time Academic position. Fully equipped prosthodontic laboratory in office. For more information call (902) 422-5454.

Opportunities Wanted

ALBERTA — University of Alberta graduate with ten years experience in general practice returning to Alberta in late March (after one year in Australia) seeks locum or position in private practice, preferably in Calgary area. Available April, 1983. Please contact Dr. David MacLure c/o R.R. #1 Enderby B.C. V0E 1N0 or phone 604-838-9794.

ONTARIO — Associateship required. Dentist completing internship at St. Michael's Hospital in April, 1983 wishes part-time evening and/or Saturday associateship in Toronto area for several years while in graduate school. Available immediately. Also available for locum/full-time from May-August 1983. Call Dr. Darlene Postello (416) 360-4409.

ONTARIO — Toronto or Ottawa. Experienced dentist, McGill graduate, successful general practice wishes to relocate. Seeks partnership in busy modern family oriented preventive practice in suburban Toronto or Ottawa. Reply CDA Box #2158.

Equipment

EQUIPMENT FOR SALE — P.C. operative light, Ritter auto-clave; two years old, 3 piece (sectional) cabinet. Mahogany colour, off white top. Sections 20" x 34" x 17"; 16" x 34" x 17"; top five feet long; amalgamator; Adec tri-flow syringe, SS forceps and elevators. Contact Dr. P. Riben, R.R. 2 Oliver B.C. V0H 1T0, phone 604-498-6624.

ACCREDITATION — DIRECTOR CANADIAN DENTAL ASSOCIATION

Applications are invited for this position with a national, professional association located in Ottawa. Responsibilities will include the planning and implementation of all surveys of dental schools and hospital programs across Canada. The incumbent will also coordinate activities of related Councils/Committees in Health Care and Dental Materials.

QUALIFICATIONS

The successful candidate will hold a degree in dentistry licensable in Canada;

- a substantial record of academic excellence;
- demonstrated leadership and significant administrative experience;
- ability to liaise effectively with the entire educational dental community and other external agencies or institutions;
- fluency (written and oral) in both French & English would be most desirable.

Salary commensurate with qualifications and experience. Excellent fringe benefit package available.

Apply in writing, sending complete resumé and salary expectations to:

**Mr. Hubert Drouin, Executive Director,
Canadian Dental Association,
1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6
CLOSING DATE: May 15, 1983**

FACULTY OF DENTISTRY DALHOUSIE UNIVERSITY

The Faculty of Dentistry is seeking to fill **one** of the following **two** positions:

**CHAIRPERSON, DEPARTMENT OF ORAL BIOLOGY
CHAIRPERSON, DEPARTMENT OF ORAL DIAGNOSIS
AND ORAL SURGERY**

Applications and nominations are invited for the positions of Chairperson of the Department of Oral Biology or Chairperson for the Department of Oral Diagnosis and Oral Surgery. The appointed individual in one of these departments will assume the temporary role of Acting Chairperson of the other department until such time as a second appointment is made.

The successful candidate should have significant experience in academic administration, research and clinical care; as well as an advanced education in one of the disciplines of the department concerned. Individuals with backgrounds in Oral Biology, Oral Pathology, Oral Diagnosis, Oral Surgery or related disciplines are encouraged to apply.

The Faculty of Dentistry's new expanded facilities make possible an expansion in undergraduate and graduate student enrollment and an increase in research potential.

Salary and rank will be based upon qualifications and experience (In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents). Applications and nominations together with a curriculum vitae should be submitted as soon as possible and no later than June 1st, 1983 to:—

Professor Derek W. Jones, Chairman, Search Committee, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia B3H 3J5.

THE UNIVERSITY OF BRITISH COLUMBIA FACULTY OF DENTISTRY

Applications are invited for a full-time position with the Department of Preventive and Community Dentistry.

Major responsibilities include: co-ordinating and teaching specific aspects of the Dental Hygiene Program, providing instruction in pre-clinical and clinical dental hygiene, faculty in-service participation and various departmental activities.

Applicants must be a graduate of an accredited Dental Hygiene Program and will be expected to obtain B.C. registration and licensure. Preference will be given to those applicants with post-diploma education and teaching experience.

The position is available as of July 1st, 1983. Salary is commensurate with qualifications and experience. In accordance with Canadian Immigration policy, consideration will be given, in the first instance, to Canadian citizens and landed immigrants.

Apply to: Mrs. Joan Voris, Director
Program of Dental Hygiene
2199 Westbrook Mall
The University of British Columbia
Vancouver, British Columbia V6T 1Z7
CANADA

FORMATION EN RECHERCHE ÉCOLE DE MÉDECINE DENTAIRE UNIVERSITÉ LAVAL

Des projets de recherche alliant les sciences fondamentales et les sciences cliniques sont en cours ou en instance de mise en place à l'École de médecine dentaire de l'Université Laval. Ces activités de recherche sont ouvertes à des titulaires d'un D.S.S. ou un D.M.D. désireux de recevoir une formation à plein temps en recherche en sciences de la santé.

Il est rappelé que le Conseil de recherches médicales du Canada (CRM) octroie un nombre limité de Bourses de recherche à des candidats hautement qualifiés.

Les candidats qui possèdent un D.D.S. ou un D.M.D. peuvent demander des bourses afin d'être aidés à faire des études supérieures conduisant à la maîtrise ou au Ph.D. Toutefois, il n'est pas nécessaire d'être inscrit à un programme d'études supérieures.

Les boursiers doivent se consacrer entièrement, pendant douze mois consécutifs, au projet de recherche qui a fait l'objet de la bourse et peuvent obtenir trois renouvellements de leur première bourse.

L'allocation versée par le CRM est fixée d'après le nombre d'années d'expérience académique post-diplômée:

Années d'expérience	Allocation
0	\$20,000
1	22,000
2	24,000
3	26,000
4	28,000
5	30,000
6	31,000
7 ou plus	32,000
	(maximum)

Pour plus de renseignements, s'adresser au: Dr Paul Simard, directeur adjoint à la recherche, École de médecine dentaire Université Laval, Québec, QUÉ. G1K 7P4, Tél.: (418) 656,2764, 656-5557

HONG KONG: ASSOCIATE

Immediate requirement for Cantonese speaking Dental Surgeon to join first class dental office located near Ocean Terminal. Opportunity for expense sharing partnership after trial period.

CONTACT:

Dr. Roger G. Bishop

209 Pentland Court

Harbour City
HONG KONG

BIG SALMON RIVER

YUKON TERRITORY

An unparalleled opportunity for Fishing, Photography, Canoeing, Continuing Education.

The Yukon Dental Association's Summer '83 Continuing Education Seminar, July 23-30.

This year we will combine travel and learning in a unique manner by hosting 2 clinicians and participating dentists on a 7 day river trip down the length of the Big Salmon river. This is one of the most scenic rivers in the territory, and offers great scope for fishing and wildlife observation.

For further information please contact:

Dr. John Stern, 3084 3rd Ave., Whitehorse, Yukon, Y1A 5B3

Announcements

1983 CANADA

April/avril

The Ottawa Dental Society presents "Predictable Restorative Procedures" by Dr. Alvin Fillastre of the L.D. Pankey Institute, Florida, Talisman Motor Hotel, Ottawa, April 18, 1983, from 9am to 5pm. The meeting will be followed by dinner, a general business meeting and elections for ODS members.

The Faculty of Dentistry, Dalhousie University will offer a review course for oral and maxillofacial surgeons from April 18-22, 1983. This is the first time such a comprehensive review course has been offered in Canada. Topics will include Medicine, Physical Diagnosis, TMJ Surgery, Trauma, Anaesthesia, Dento-facial Deformities, Infection and Cleft Palate. Participation exercises in histopathology designed specifically to meet the needs of oral and maxillofacial surgeons will be offered in four evening sessions. It is being co-ordinated by Dr. David S. Precious, Director of the graduate program in Oral Surgery. Brochures, including application forms, can be obtained by writing: Continuing Education in Dentistry, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia B3H 3J5, Canada; (902) 424-2248.

The Canadian Craniofacial Society will hold their annual meeting in Saskatoon Saskatchewan, April 22-23, 1983. A two-day symposium, in co-operation with the University of Saskatchewan will be held at the same time. Symposium title is: "Current Controversies in Cleft Lip and Palate Habilitation." Featured speakers include: Dr. Roger West, Seattle, Dr. Bruce Ross, Toronto, Dr. Hughlet Morris, Iowa. Contact Ms. Caroline Dunsmore, c/o Alberta Children's Hospital, 1820 Richmond Rd. Calgary Alta T2T 5C7.

The Kingston and District Dental Hygienists, Assistants and Dentists are holding a Molar-Thon 1983, 5mi (8km) road race and 1 mi fun run for children April 24, 1983, 11 a.m. Kingston Ontario. Profits to be donated to dentistry for underprivileged children. Contact: Molar-thon '83, Deborah S. Steacy, RDH, 2-999 Portsmouth Ave. Kingston Ont. K7M 1X2, (613) 542-1164.

The Ottawa Dental Study Club presents "The Cast Etch Metal Fixed Prosthesis" and "Acid Etch Resin Temporary Fixed Prosthesis" by Dr. Mike Suzuki, Univer-

sity of Western Ontario. Talisman Motor Hotel, Ottawa Ont. April 29, 1983 from 9 am to 5 pm. Registration: Dr. Fred Lacosta, 202-125 Somerset St. W. Ottawa, Ont. M2P 0H7, phone 613-235-7560.

May/mai

The North Central region, in conjunction with the Northeastern region of the American Academy of Dental Group Practice, will hold its 1983 annual meeting in Canada, Westin Hotel, Toronto, Ont., May 13-15, 1983. Contact: American Academy of Dental Group Practice, Ms. Joann Jenkins, Executive Secretary, 1709 Elka Lane, Madison, Wisconsin 53704, Phone: (608) 241-2609.

Ontario Dental Association 116th Annual Spring Meeting, The Sheraton Centre, Toronto, Ontario, May 15-18, 1983. Contact: Mrs. W.C. Durham, 234 St. George Street, Toronto, Ontario M5R 2P1.

"Medic Canada '83... Towards the Year 2000", a major international health care/medical devices conference and exhibition, Edmonton, Alberta, May 29-31, 1983. Contact: Robert S. First, Inc., 707 Westchester Avenue, White Plains, N.Y. 10604; (914) 949-4248.

The 1983 Annual Convention of Les Journées Dentaires du Québec, Montréal, Québec, May 28-June 1, 1983. Contact: Dr. Morton Lang, Executive Director, Les Journées Dentaires du Québec, 3565 rue Berri, Suite 200, Montréal, Québec H2L 4G3. Phone: (514) 842-9112.

June/juin

The Canadian Association of Oral and Maxillofacial Surgeons Meeting, Vancouver, British Columbia, June 3-6, 1983. Contact: Dr. Brian M. Abrams, Secretary, Canadian Association of Oral & Maxillofacial Surgeons, 410 - 11012 MacLeod St.S., Calgary, Alta. T2J 6A5.

The 7th Annual Meeting of the Canadian Health Libraries Association, Winnipeg, Manitoba, June 13-15, 1983. Contact: Marilyn Hernandez, Conference Co-ordinator, Department of Health Library, 220-880 Portage Avenue, Winnipeg, Manitoba R3G 0P1; (204) 786-5867.

July/juillet

The 5th Canadian Congress of Dentistry for Children, Four Seasons Hotel, Calgary, Alberta, July 1-3, 1983. 5th Canadian Congress, 2nd floor, Bow Valley Square II, 205 — 5th Avenue S.W., Calgary, Alta. T2P 2V7.

"ADG-Toronto: A New Leaf on Learn-

ing", the 1983 Table Clinics program presented by the Academy of General Dentistry, Sheraton Centre, Toronto, Ontario, July 16-20, 1983. Contact: Department of Meeting Planning, AGD, Suite 1200, 211 E. Chicago Avenue, Chicago, Illinois 60611; (312) 440-4300.

September/septembre

The Ernest C. Manning Awards Foundation will present its second annual award to an innovative Canadian in September 1983. The award of \$75,000 is presented to a Canadian doing innovative research or with an innovative invention in categories which cover the life sciences, social sciences and government. For further information contact: George Dunlap, Ernest C. Manning Awards Foundation, 2300, 639 Fifth Ave. S.W. Calgary Alta. T2P 0M9 phone, 403-266-7571.

Meeting of the Canadian Academy of Prosthodontics, Vancouver, B.C., September 22-24, 1983. Contact: Dr. B.M. Jackson, 22 Water Street S., Kitchener, Ontario N2G 4K4.

The Association of Prosthodontists of Canada, Annual Meeting, September 24-25, in Vancouver, B.C. Program Chairman: Dr. D. Donaldson, Faculty of Dentistry, University of British Columbia.

First International Symposium on: "Today's Research, Tomorrow's Health Care Delivery." At Faculty of Dentistry, Dalhousie University, Halifax, N.S. September 30 — October 1. Contact: International Symposium, Anniversary 75, Continuing Education Office, Faculty of Dentistry, Dalhousie University, Halifax, N.S. B3H 3J5. Telephone (902) 424-2248 or 424-6507.

The Royal College of Dentists of Canada Symposium on Periodontal Diseases, generously supported by Colgate-Palmolive Canada, as part of the Canadian Dental Association's National Convention, Vancouver, B.C., Monday, September 26, 1983. The keynote speaker for the Symposium will be Dr. Harald Löe, newly appointed Director of the National Institute of Dental Research, Bethesda, Maryland, and presently Dean of the School of Dental Medicine at The University of Connecticut.

October/octobre

The Canadian Academy of Endodontics is holding its annual general meeting Winnipeg Manitoba, October 14-16, 1983. Contact: Dr. W. H. Christie, 233 Kennedy St. Suite 506, Winnipeg Man. R3C 3J5.

November/novembre

Toronto Academy of Dentistry Annual Winter Clinic, Royal York Hotel, Toronto Ont. November 24, 1983. Contact: Academy of Dentistry, 234 St George St. Toronto Ont. M5R 2P2, Telephone 416-967-5649.

International

May/mai

XII International Dental Show, Munich, Germany, May 9 — 14, 1983. Largest dental exhibition in the world. Information: Munchener Messe-und Ausstellungsgesellschaft mbH, Messgelände, Postfach 12 10 09, D-8000 München 12, Germany. Telex: 5 212 086 ameg d.

Washington State Dental Association, 1983 Scientific Session, Seattle Center, Seattle, Washington, May 12-14. Contact: Washington State Dental Association, P.O. Box 9824, Seattle, Washington 98109; Phone (206) 622-1914.

The International Congress of Oral Implantologists and Loma Linda University School of Dentistry present a Subperiosteal Implant Symposium, San Diego California, May 23-25 1983. Contact Mr. Clifford Kirschner, P.O. Box 2277 Grand Central Station, New York New York, 10163, (201) 783-6300 or Karen M. Mojeske, Loma Linda University School of Dentistry, Continuing Education, Loma Linda California, 92350 (714) 824-4685.

Medic-Asia '83. South East Asia's 3rd International Medical and Hospital Equipment Exhibition, World Trade Centre, Singapore, May 23-26, 1983. Contact: The P.R. Department, Interfama Pte. Ltd., Suite 1105, 11th floor, World Trade Centre, 1 Maritime Square, Singapore 0409.

June/juin

The International Congress of Oral Implantologists and the Southern Academy of Implant Dentistry present their Thirteenth Annual Implant seminar. Atlanta Georgia, June 3-5 1983. Contact either: Dr Maurice J. Fagan III, Program Chairman, the Southern Academy of Implant Dentistry, 960 Johnson Ferry Rd. Suite 440, Atlanta Georgia, 30342, (404) 255-5006 or Mr. Clifford J. Kirschner, Executive Director, The International Congress of Oral Implantologists, P.O. Box 2277 Grand Central Station, New York, New York 10163, 201-783-6300.

The next meeting of the American Dental Society of Europe will be held at the St. Pierre Park Hotel, Guernsey from June 28 to July 1, 1983. All enquiries should be made to: Brian J. Parkins, Hon. Secretary, 57 Portland Place, London W1N 3AH England.

The 1983 Annual and Scientific Meeting of the British Dental Association, Stratford-upon-Avon, Great Britain, June 30 to July 3, 1983. For further information contact: British Dental Association, 64 Wimpole Street, London W1M 8AL.

6th Dentistry International Congress, Rio de Janeiro, Brazil, July 16-21, 1983. For further information contact: A.B.O. — Rio de Janeiro, Ave. 13 de Maio — S/1001/6, CEP. 20.031, Rio de Janeiro, RJ, Brazil.

November/novembre

Fédération Dentaire Internationale, 71st Annual World Dental Congress, Tokyo Japan, November 14-20, 1983. Contact: Japan Dental Association, 1-20, Kudan-Kita 4-chome, Chiyoda-ku, Tokyo 102, Japan.

1984+

The Centre of Pediatric Dentistry is organizing the "Second Dominican Congress of Pediatric Dentistry" in Santo Domingo, January 27-29 1984. Congress themes are Prevention and Clinical Aspects. Fees are \$50 U.S. Contact: Dr. Franklin Garcia-Godoy, Centre de Odontologie Pédiatrique, P.O. Box 2753 Santo Domingo, Dominican Republic, Telephone 809-689-4277 afternoons and evenings.

La Commission d'Études Biomatériaux créée par le Centre Français de la Corrosion (Cefracor) organise à Strasbourg Germany au Palais de Conseil de l'Europe sur le thème "Corrosion et dégradation des biomatériaux et leurs incidences cliniques." les 5-7 Mars 1984. Pour tous renseignements s'adresser au Secrétariat du CEFACOR, 28 rue Saint Dominique 75 07 PARIS. Tél: 705.10.73 ou 705.39.26.

International Association of Oral Pathologists general meeting, to be held in Noordwijkerhout, the Netherlands, June 4-7 1984. Contact: Congress Secretaria, 2nd Meeting of the International Association of Oral Pathologists, c/o Mrs. R. Mooijen, AZVU Pathologisch Instituut, De Boelelaan 1117, MB Amsterdam, the Netherlands.

The New Zealand Dental Association is holding its biennial conference, Auckland New Zealand, August 12-17 1984. Contact: Dr. N. P. Ewart, Conference Secre-

tary, P.O. Box 28085 Auckland 5, New Zealand.

Scandinavia's largest international trade fair, "Swedental '84" will be held in Stockholm Sweden, November 14-16 1984. Contact Stursberg/Hewitt/ Radley, U.S. Representatives, 6671 Sunset Blvd. Suite 1525, Los Angeles California 90028, 213-462-6260.

The Indian Dental Association is presenting its 39th annual conference, Bombay India, last week of December 1984. Contact: Dr. L. K. Ghandi, Conference Secretary, 39th IDA Conference, C-50 N.D.S.E. Part-II, New Delhi, 110049.

The 24th Australian Dental Congress will be held in Brisbane Australia May 12-17 1985. The Congress is hosted by the Australian Dental Association. Contact: The Congress Secretariat, P.O. Box 29, Parkville, Vic. Australia, 3052.

GDA

Canadian Dental Association, 1983 National Convention, Vancouver, British Columbia, September 25-28, 1983.

Canadian Dental Association, 1984 National Convention, Montreal, Quebec, April 8-12, 1984. Contact: Dr. Morton Lang, O.D.Q., 3565 Berri St., Suite 200, Montreal, Que. H2L 4G3. Phone: (514) 842-9112.

Canadian Dental Association, 1985 National Convention, Ottawa, Ontario, September 29-October 2, 1985.

ADVERTISERS' INDEX

Allans Travel Service Ltd.	234
Amalgamated Dental	242
Astra Pharmaceuticals	236
Block Drug Co.	
(Canada) Ltd.	230, 235, 279
John O. Butler	213
CDSPI	250, 276
L. D. Caulk Co.	237
Colgate Palmolive Inc.	227
Johnson and Johnson	219, 249
Merck-Frosst	228, 229, 266
Myo-tronic Foundation	264
Nobilium Canada Inc.	238
Pfingst	264
Procter and Gamble Co.	
of Canada Ltd.	214
G.D. Searle	220, 221
University of	
British Columbia	263
Upjohn Co. of Canada	IFC, 245
Warner Lambert	OBC, IBC
Western Canada Dental Society/Alberta Dental Association	263
Whaledent International	222

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References: 1. Ostrom, C.A. et al., J Dent Res, 56(3):212-221, 1977. 2. Arends, J., ten Cate, J.M., J Cryst Gro, 53:135-147, 1981. 3. Silverstone, L.M., Caries Res, 11 (Suppl. 1):59-84, 1977. 4. Data file at Procter & Gamble, Inc. 5. Mobley, M.J., J Dent Res, 60(12):1943-1948, 1981. For further information, please contact Crest Professional Services, P.O. Box 355, Station A, Toronto, Ontario M5W 1

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Editorial

- 289 Dr. James Grier maintains that the key to maintaining independence in a dental practice is through dealing more directly with the patient and not with "third parties."

Letters

- 296 Dr. Brian Price writes that instead of limiting dental manpower, efforts should be made to increase the demand for dental services.

Dr. T. Mayhall feels it is inappropriate to see a wine column in a professional journal.

Dr. W. Walker Shortill waxes poetic as he grapples "with the column on the grape."

In the News

- 297 **Fluoridated water: A province-by-province survey of the extent of the population served**
The Journal staff recently conducted a survey of the percentage of the population of Canada served by fluoridated community drinking water.

- 298 **Convocation and Symposium will mark Manitoba Faculty of Dentistry's 25th Anniversary**
On May 29, a special convocation, and on November 18 and 19, an international symposium, will be highlights of celebrations arranged for the anniversary.

- 303 **President's 'Gala' — major social event of CDA Convention**
The natural beauty of Vancouver and its multicultural richness, will be highlighted at this event on Sept. 27.

- 304 **Dental Hygienists' and Assistants' Convention theme is 'Conference on the Coast'**
Details of the CDHA and CDAA Convention programs are provided.

- 305 **Funding is being sought from Ontario Government for the treatment of craniofacial anomalies**
The ODA is seeking funds from its provincial government to provide financing for the present program.

- 311 **Your application for insurance has been declined... CDSPI**
This article advises what to do if a dentist receives this reply when he applies for insurance coverage.

Former President of the CDA elected VP of International College

Dr. William Spence, President of the Canadian Dental Association in 1970, has been named Vice-President of the International College of Dentists.

Briefly

- 312 Dental news items from across Canada and around the world, are highlighted.

Article

- 315 **Future needs in Canada for dentists with public health training**
Dr. J. L. Leake cites statistics and expresses concern about vacancies in this field, and the need to plan for the future.

About Wine

- 321 **How to choose an Italian wine**
Columnist Michael Roberts uncomplicates the problem of choosing from among thousands of Italian wines being produced these days.

CDA Resource Centre

- 323 The CDA Library/Resource Centre lists articles available on the subject of **Mercury in the Dental Office**. Also included is a list of new acquisitions in the Library.

Publications

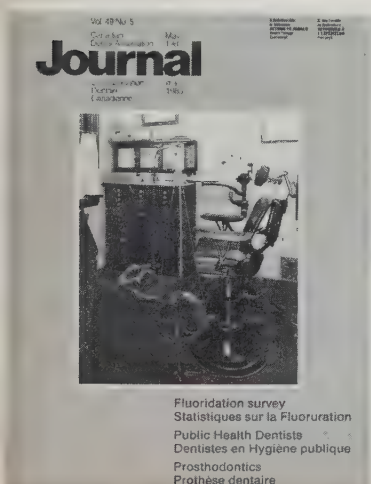
- 327 **New Concepts in Operative Dentistry**
"I found the text... to be of little value. I would not recommend its purchase to anyone."
— Dr. Michael R. Roda
- 328 **Occlusal Morphology**
"For the student, this introduction to occlusion is an informative overview."
— Dr. Karl H. Lederman

- 329 **Dental Amalgam**
"Probably the most unique feature of this most practical work is that 28-30 most popular amalgam alloys mentioned have been thoroughly investigated and tested by the authors."
— Leonard N. Johnson

Scientific

- 339 **Factors involved in residual alveolar ridge atrophy of the mandible** — Dennis B. Gilboe
- 345 **Centric relation: Functional anatomy** — Paul Mercier et al
- 305 RRSP
- 314 Obituaries
- 349 Marketplace
- 351 Announcements
- 352 Advertisers' Index

Cover Photo: See story on Page 298



Fluoridation survey
Statistiques sur la Fluoruration
Public Health Dentists
Dentistes en Hygiène publique
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ISSN0709 8936

- 290 Selon le Dr Grier, la solution pour conserver l'indépendance des cabinets dentaires est de traiter directement avec le patient et non avec une tierce partie.

Actualités

- 331 **Fluoruration: statistiques provinciales**
La rédaction du Journal a récemment effectué un sondage touchant le pourcentage de la population canadienne alimentée en eau fluorurée.

- 333 **La soirée de gala du président, clou du programme social du Congrès de l'ADC**
Les beautés naturelles de Vancouver et ses richesses multiculturelles seront mises en vedette en cette soirée du 27 septembre.

Congrès des assistantes et des hygiénistes dentaires
Programme des congrès conjoints de l'ACAD et l'ACHD.

- 334 **Un ancien président de l'ADC est élu vice-président du Collège international des dentistes**
Le Dr William Spence, président de l'ADC en 1970, vient de se voir conférer cet honneur.

En bref

- 335 Un tour d'horizon des principales informations dentaires du Canada et dans le monde

- 323 **Bibliothèque et Centre de documentation de l'ADC**
La Bibliothèque et le Centre de documentation de l'ADC présentent une liste des articles disponibles sur le mercure dans le cabinet dentaire. Se trouve ci-joint également une liste des nouvelles publications acquises par la Bibliothèque.

- 336 REER
314 Nécrologie
349 Petites annonces
351 Avis
352 Index des annonceurs

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de l'Association
Dentaire
Canadienne

mai
1983

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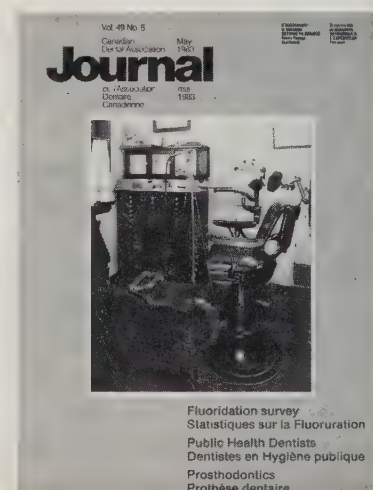
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Photo de la couverture: Voir l'historique en page 338



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Veuillez nous prévenir le 10 du mois de tout changement d'adresse pour recevoir le journal à votre nouvelle adresse le mois suivant.

Tout abonnement est payable à l'avance en dollars canadiens. Au Canada — \$35, au États-Unis — \$35, partout ailleurs — \$38. Il comprend 12 numéros qui ne correspondent pas nécessairement avec les mois d'une même année.

La direction du Journal ne partage pas nécessairement les opinions qu'expriment ses collaborateurs à moins que l'Association Dentaire Canadienne ne les ait adoptées officiellement.

THE KEY TO MAINTAINING INDEPENDENCE IN DENTAL PRACTICE

With the growth of dental insurance, regular dental care has become more affordable to a larger segment of the population and the improvement in dental health of Canadians in the past few years can be in part attributed to this.

However, the dentist must not forget that these insurance plans belong to the patient and for the dentist to accept payment from these third parties, compromises the traditional dentist-to-patient relationship. This relationship involves treatment planning by the dentist, and, with the patient's approval, carrying out of the services and subsequent payment of the fees. The value placed on the service is more likely to be appreciated by the patient when he or she has actually paid the bill. That a reimbursement is later received from the insurance company is a bonus to the patient but incidental to the relationship with the dentist.

There is increasing evidence that third parties are trying to influence treatment planning and this will not only have an effect on the dentist/patient relationship but will tend to infringe on the dentist's clinical freedom. Controls in respect of treatment can lead to fee control and the prime example of this is the National Health Service in the United Kingdom where over the years the dental profession has had its independence eroded. The result was a lowering of morale in the profession and lowering of the standard of dental care dispensed.

Independence in dental practice is very dependent upon financial independence and practitioners who receive a large percentage of their income from two or three insurance cheques per month are in a very vulnerable position as far as collections are concerned. Billing the patient allows the dentist to maintain a greater degree of control

over the financial management of the practice and, in addition, allows him to retain the idea that he is working for the patient and not for the insurance company.

Billing the patient also fosters a more honest attitude to fees, because the patient is aware of, and pays for, all services rendered. Growing concern is being expressed across the country that dental plans are being abused by a minority of dentists who are billing for services not performed. There is strong evidence to suggest that excessive charges would not be billed if the account were being presented in person to a patient rather than by mail to a computer.

The loudest arguments raised against direct billing centre round the patient's acceptance of this as an office policy. When properly explained, this need not be a problem. Such methods as post-dated cheques and use of VISA or Mastercard avoid the problem of the patient being out-of-pocket in cases of large amounts owing or where immediate payment would lead to hardship. It is interesting to note that payments by insurance companies to patients seem to come through faster than those to dentists. Reduced accounts receivable is therefore another benefit of direct billing.

The medical profession has lost a lot of its independence because of government intervention, and there are some who feel that dentistry is destined to go along the same route eventually. However, dentistry in Canada still has a chance to remain an independent profession. Whether it does depends on a number of factors, one of the most important being that dentists deal more directly with patients, than with insurance companies.

— James D.R. Grier, DDS, BDS
Victoria, B.C.

EDITOR'S NOTE:

With the reorganization of the CDA Editorial Board, the writing of editorials has also taken a new direction.

Most of the editorials will now originate from the pen of the editor, or from members of the Editorial Board.

Board members will from time to time write guest editorials. The first of these is the one above, written by Dr. James D.R. Grier of Victoria, B.C., one of the new members of the Editorial Board.

This is by no means intended to be an exclusive policy. The editor is quite prepared to consider guest editorials or opinion pieces on matters of professional concern to dentists from any source within our range of readership.

Clarence Metcalfe
CDA Journal Editor

LA CLEF DE L'AUTONOMIE DANS LES CABINETS DENTAIRES

Au cours des dernières années, la santé dentaire des Canadiens s'est améliorée et ce progrès est dû partiellement au fait qu'une plus grande partie de la population bénéficie d'une assurance dentaire, ce qui lui permet de visiter régulièrement le dentiste.

Toutefois, le dentiste ne doit jamais oublier que les régimes d'assurance appartiennent au patient et, lorsqu'il accepte que les services qu'il rend soient défrayés par une tierce partie, il compromet la relation traditionnelle entre un dentiste et son patient. Cette relation comprend un plan de traitement et, avec le consentement du patient, l'administration des soins indiqués et, par la suite, la perception des honoraires. Sans doute le patient peut-il apprécier davantage la valeur des services obtenus s'il les paie lui-même. Et si une compagnie d'assurance l'indemnise, ce sera pour lui un avantage accessoire dans sa relation avec le dentiste.

Il est de plus en plus évident que les tierces parties essaient d'exercer une influence sur la planification des traitements, ce qui non seulement déteint sur la relation entre le dentiste et son patient, mais porte aussi atteinte à la liberté clinique du premier. Le contrôle des traitements peut conduire au contrôle des honoraires. Le meilleur exemple à citer à ce sujet est le *National Health Service* (Service national de la santé) du Royaume-Uni où, au cours des ans, la profession dentaire a vu son autonomie se corroder. Aussi le moral de la profession a-t-il baissé, causant un relâchement des normes pour les soins administrés.

L'autonomie dans les cabinets dentaires dépend en grande partie de l'indépendance financière et les dentistes qui reçoivent chaque mois un haut pourcentage de leur revenu de deux ou trois compagnies d'assurance, se trouvent dans une situation vulnérable du point de vue de la perception de leurs honoraires. En facturant le patient, le dentiste peut conserver un plus grand contrôle sur la gestion financière de son cabinet et, en outre, s'en tenir à

l'idée qu'il travaille pour le patient et non pour une compagnie d'assurance.

Par ailleurs, en remettant la facture au patient, on cultive une attitude plus honnête touchant les honoraires: on sait que le patient est conscient de la valeur des services qu'il obtient, puisque c'est lui-même qui les paie. À travers le pays, on s'inquiète de plus en plus du fait qu'une minorité de dentistes abusent des régimes d'assurance en dressant des factures pour des services qu'ils n'ont pas rendus. Tout indique fortement que des montants excessifs ne seraient pas exigés si les comptes étaient adressés directement au patient au lieu de lui être envoyés par la poste à l'aide d'un ordinateur.

La plus grande objection qu'on élève touchant la facturation directe a trait à l'attitude du patient à l'égard de cette politique adoptée par les cabinets dentaires. Pourtant, quand elle est bien expliquée, cette politique ne suscite aucun problème. Les chèques postdatés et les cartes *Visa* ou *Mastercard* sont des modes de paiement qui évitent au patient l'embarras de n'avoir pas sur lui la somme demandée quand la facture est élevée ou quand le paiement immédiat constitue un problème pour lui. Il est intéressant de noter que les compagnies d'assurance semblent indemniser les patients plus rapidement que les dentistes. La facturation directe a donc comme avantage supplémentaire de réduire le nombre des comptes recevables.

La profession médicale a perdu beaucoup de son autonomie à cause de l'ingérence du gouvernement et, de l'avis de certains, la dentisterie connaîtra éventuellement le même sort. Toutefois, la dentisterie au Canada a encore une chance de rester une profession autonome. Il en dépendra de plusieurs facteurs, l'un des plus importantes étant la nécessité pour le dentiste de négocier plus directement avec ses patients plutôt qu'avec des compagnies d'assurance.

James D R Grier, dds, bds
Victoria (Colombie-Britannique)

NOTE DE LA REDACTION

Avec la réorganisation du Conseil éditorial de l'ADC, la rédaction des éditoriaux a pris une nouvelle orientation.

Dorénavant, la plupart des éditoriaux seront signés par le rédacteur en chef ou des membres du Conseil éditorial.

Les membres du Conseil éditorial écriront de temps à autre des éditoriaux en tant qu'éditorialistes invités. Le premier éditorial à paraître ainsi est celui qui précède, écrit par le Dr James D.R. Grier, de Victoria (Colombie-Britannique), l'un des nouveaux membres du Conseil

éditorial.

Il va de soi que cette politique n'est nullement exclusive. La rédaction est prête à accepter des éditoriaux ou des articles exprimant un point de vue sur des questions d'intérêt pour les dentistes et provenant de quiconque fait partie de notre public.

Le rédacteur en chef
du Journal de l'ADC,
Clarence Metcalfe

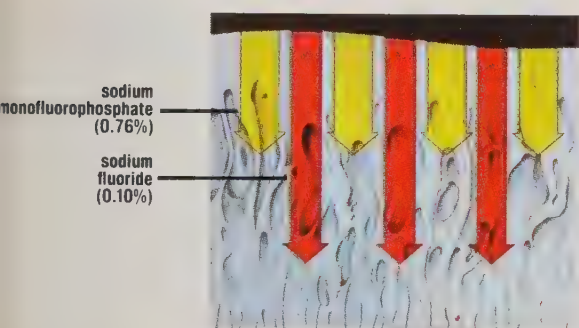
How Colgate's two fluoride formula achieves more complete remineralization resulting in nearly double the cavity protection of a single fluoride formula.*

A major role of fluoride in cavity prevention is to accelerate the process by which remineralized enamel is rebuilt (1-4). This reverses white spot lesions which would otherwise become cavities.

Today's Colgate is the first toothpaste with two fluorides—sodium monofluorophosphate at 0.76% and sodium fluoride at 0.10%. Their differing molecular structures mean these fluorides work at different levels in tooth enamel. The result, at these concentrations, is more complete remineralization of white spot lesions than either can achieve alone.

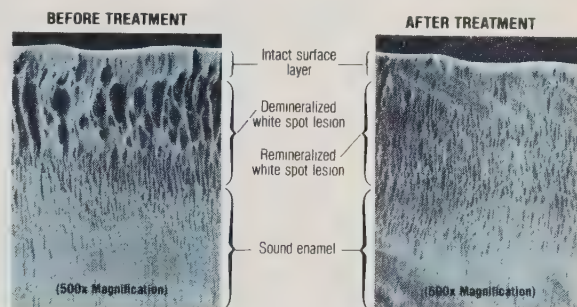
Why these two fluorides remineralize more completely.

Fluorides reach white spot lesions by penetrating enamel through the interprismatic spaces. Sodium monofluorophosphate, being a larger molecule, reacts with enamel primarily at the surface of a white spot lesion. Sodium fluoride, a smaller molecule, penetrates deeper into the lesion.



Because they work at different levels the two fluorides complement each other, enhancing remineralization over a greater area of the lesion than a single fluoride* alone.

This complementary action means more fluoride is available to enhance remineralization over a greater area of the lesion, than is provided by either fluoride alone (5,6).



This more complete remineralization has been demonstrated in laboratory studies (7), and can be seen in the photomicrographs above.

Clinical studies show nearly double the cavity reduction.

Colgate with this two fluoride concept was tested in a three year clinical study (8). The results—Colgate's two fluoride formula provided 27.0% reduction in new caries versus 13.8% for the single fluoride positive control* (DMFT).

Conclusion.

Colgate's two fluoride formula provides superior cavity protection to a single fluoride formula*: Only Today's Colgate has a two fluoride formula.

When you recommend Colgate you're recommending an innovative product—offering advanced and clinically tested cavity protection.

*Sodium monofluorophosphate (0.76%)

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† Colgate Toothpaste contains sodium monofluorophosphate and sodium fluoride which are, in our opinion, effective decay preventive agents and are of significant value when used in a conscientiously applied program of oral hygiene and regular professional care. Canadian Dental Association

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(hepatitis B vaccine)

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for immunization against hepatitis B

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Heptavax-B*

hepatitis B vaccine)

Injection

DESCRIPTION

HEPTAVAX-B* is a non-infectious inactivated subunit virus vaccine derived from surface antigen (HBsAg or Australia antigen) of hepatitis B virus (Dane particles). The antigen is harvested and purified from the plasma of human carriers of hepatitis B virus according to methods developed by Merck Sharp and Dohme Research Laboratories. HEPTAVAX-B* is a sterile suspension for intramuscular injection. Each 1.0 mL dose of vaccine contains 20 µg of hepatitis B surface antigen formulated in aluminum (aluminum hydroxide) adjuvant, and thimerosal (mercury derivative) 1:20,000 added as a preservative. The vaccine is prepared without regard to HBsAg subtype. HEPTAVAX-B*, is indicated for immunization of persons at risk of infection from hepatitis B virus including all known subtypes.

INDICATIONS AND USAGE

HEPTAVAX-B* is indicated for immunization against infection caused by hepatitis B virus including all known subtypes. Vaccination is recommended in at-risk persons 12 months of age or older.

The incidence of infection is known to vary greatly in different geographic areas and in different populations throughout the world. Vaccination strategy should vary accordingly.

Areas with low prevalence: In these areas vaccination may be limited to those who are in groups identified as being at increased risk of infection. The following high-risk categories might be identified in low-prevalence areas:

Health Care Personnel

- Dentists and oral surgeons
- Physicians and surgeons
- Nurses
- Paramedical personnel and custodial staff who may be exposed to the virus
- Dental hygienists and dental nurses
- Laboratory personnel handling blood and blood products and other patient samples
- Dental, medical and nursing students

Selected Patients and patient Contacts

- Patients and staff in hemodialysis units and hematology/oncology units
- Patients requiring frequent and/or large volume blood transfusions (e.g., persons with hemophilia, thalassemia)
- Clients (residents) and staff of institutions for the mentally handicapped
- Classroom contacts of deinstitutionalized mentally handicapped persons with persistent hepatitis B antigenemia
- Household and other intimate contacts of persons with persistent hepatitis B antigenemia

Certain Military Personnel

Morticians and Embalmers

Blood bank and plasma fractionation workers

Persons at Increased Risk of the Disease Due to Their Sexual Practices

- such as:
- Persons who repeatedly contract sexually transmitted disease
- Homosexually active males
- Female prostitutes

Prisoners

Users of Illicit Injectable Drugs

Areas with high prevalence: In these areas, most of the population are at risk of acquiring hepatitis B, often at a young age. Therefore, vaccination should be targeted to young children or to those known to be susceptible.

CONTRAINDICATIONS

Hypersensitivity to any component of the vaccine.

WARNINGS

Persons with immunodeficiency or those receiving immunosuppressive therapy may require larger vaccine

doses to develop adequate circulating antibody levels. See **DOSAGE AND ADMINISTRATION** for use in such individuals.

Because of the long incubation period for hepatitis B, it is possible for unrecognized infection to be present at the time HEPTAVAX-B* is given. HEPTAVAX-B* may not prevent hepatitis B in such patients.

Further study is required to determine the effectiveness of HEPTAVAX-B* in preventing hepatitis when the vaccine regimen is begun after an exposure to the hepatitis B virus has already occurred (i.e., use for post-exposure prophylaxis). However, it has been demonstrated that doses up to 3 mL of hepatitis B immune globulin, when administered simultaneously with HEPTAVAX-B* at separate body sites, do not interfere with the induction of neutralizing antibodies against hepatitis B virus.

PRECAUTIONS

General

As with any parenteral vaccine, epinephrine should be available for immediate use should an anaphylactoid reaction occur.

Any serious active infection is reason for delaying use of HEPTAVAX-B* except when, in the opinion of the physician, withholding the agent entails a greater risk.

Caution and appropriate care should be exercised in administering HEPTAVAX-B* to individuals with severely compromised cardiopulmonary status or to others in whom a febrile or systemic reaction could pose a significant risk.

Pregnancy

Animal reproduction studies have not been conducted with HEPTAVAX-B*. It is also not known whether HEPTAVAX-B* can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. HEPTAVAX-B* is not recommended for use in pregnant women.

Nursing Mothers

It is not known whether HEPTAVAX-B* is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when HEPTAVAX-B* is administered to a nursing woman.

Pediatric Use

Safety and effectiveness in children below the age of 3 months have not been established to date. Use of this vaccine in children below the age of 3 months is not presently recommended.

ADVERSE REACTIONS

In studies involving over 1000 adult volunteers approximately 25% reported some local or systemic complaint. The most commonly occurring side effects of vaccination are local soreness and erythema at the injection site. Local swelling, warmth, or induration is reported less frequently. These signs and symptoms of local inflammation are generally well tolerated and usually subside within two days of vaccination.

Lower grade fever [less than 38.3°C (101°F)] occurs occasionally and is usually confined to the 48-hour period following vaccination. Although uncommon, fever over 39°C (102°F) has been reported.

Systemic complaints including malaise, fatigue, headache, nausea, myalgia, and arthralgia are infrequent and have been limited to the first few days following vaccination. Rash has been reported rarely.

In a double-blind, placebo-controlled study conducted in a high risk population, the overall incidence of side effects among vaccine recipients (24.3%) did not differ significantly from the rate among placebo recipients (21.4%).

DOSAGE AND ADMINISTRATION FOR INTRAMUSCULAR USE ONLY

Do not inject intravenously, subcutaneously or intradermally.

Shake well before withdrawal and use.

Thorough agitation at the time of administration is necessary to maintain suspension of the vaccine. Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration. After thorough agitation, HEPTAVAX-B* is a slightly opaque, white suspension.

The immunization regimen consists of 3 doses of vaccine given **intramuscularly**:

1st dose: at elected date

2nd dose: 1 month later

3rd dose (booster): 6 months after the first dose

The volume of vaccine to be given on each occasion is as follows:

Group	Initial	1 month	6 months
Younger children (3 months to 10 years of age)	0.5 mL	0.5 mL	0.5 mL
Adults and Older children	1.0 mL	1.0 mL	1.0 mL
Dialysis Patients and immunocompromised patients	2.0 mL*	2.0 mL*	2.0 mL*

*Two x 1.0 mL doses given in different sites

Revaccination (Booster)

Although the duration of protective effect of HEPTAVAX-B* is unknown at present, available data suggest that immunity will last for about 5 years in patients who have received all three doses, after which time a single booster dose of vaccine might be necessary to maintain immunity. Booster doses thereafter might be given every 5 years.

Store unopened and opened vials at 2 - 8°C (35.6-46.4°F). **Do not freeze.** The vaccine is used directly as supplied. No dilution or reconstitution is necessary. Thimerosal in 1:20,000 dilution is present in the vaccine as a preservative. Do not use vaccine after the expiration date.

It is important to use a separate sterile syringe and needle for each individual patient to prevent transmission of hepatitis and other infectious agents from one person to another.

For Syringe Use Only: Withdraw the recommended dose from the vial using a sterile needle and syringe free of preservatives, antiseptics, and detergents.

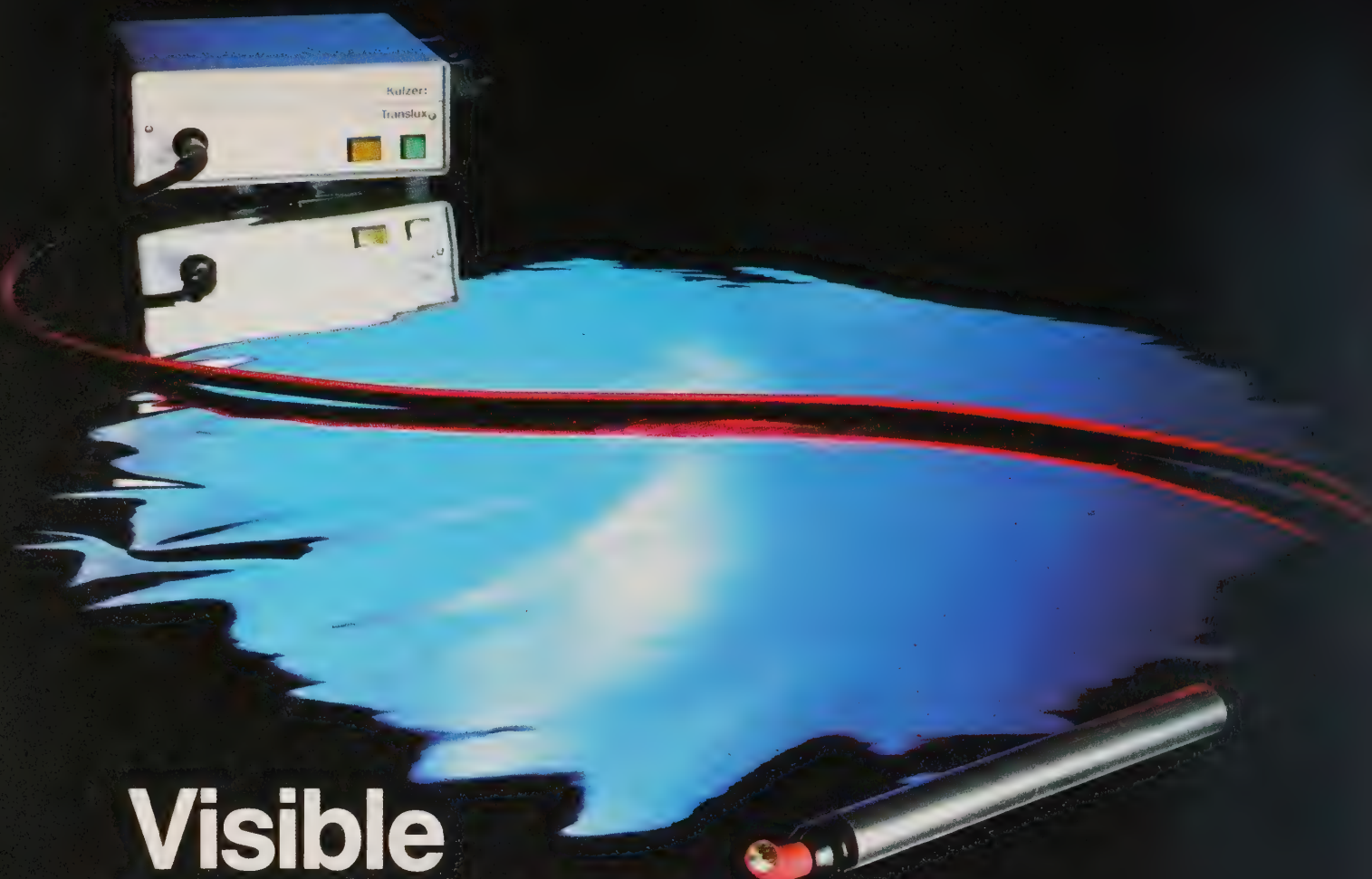
AVAILABILITY

No. 4720 Ca — HEPTAVAX-B* contains one 3.0 mL vial of liquid vaccine. For use with syringe only.

FULL PRODUCT MONOGRAPH AVAILABLE ON REQUEST.

PAAB

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The image shows a Kulzer Translux dental curing unit in the top left corner, which is a white rectangular device with a power switch and a power cord. A red liquid light transmission cord extends from the unit across the top of the page. In the bottom right corner, there is a black dental handpiece with a red tip. The background is a dark, reflective surface that shows a distorted, wavy reflection of the unit and the cord, creating a sense of depth and liquid-like movement.

Visible Performance... Hidden Quality

When it comes to visible performance, the Kulzer Translux® outshines the competition. No other visible light unit has its unique combination of desirable features. The Translux® has an unparalleled* record of performance and reliability.

The hidden quality of the Liquid Light Transmission Cord is an extraordinary technological advance from Kulzer. Because it is the *only* liquid filled cord, it will last longer (fiber optic cords deteriorate with use), conduct light better and cure deeper (up to 4.5mm) with extreme safety.

These additional features: rotating lightweight handpiece, small compact unit, timed audio signal and interchangeable tips contribute to the easy handling and efficient operation of the Kulzer Translux®.

Ultimately, the Kulzer Translux® is designed to give you years of incredible performance... visible only because of scientific hidden qualities.

*Kulzer Translux was introduced in the summer of 1979, over three years ago.

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Manpower surplus: 'Dentistry has become a victim of its own vested virtues'

R.K. House states that the major problem facing dentistry today is an over-supply of manpower. By the same token, he also states that a reduction in (U.B.C.) graduates by as much as 20 per cent from 1986 onward would permit those remaining in the profession to increase their work capacity or average practice hours by just 3.7 per cent or 1.3 hours per week.

This dichotomy is not the first nor the last in the C.D.A. sponsored study examining the future supply of dentists.

The basic conclusions of the study indicate that dentistry faces serious challenges in the supply area in the next 20 years — contingent upon current economic climate and present levels of productivity.

It stands to reason that as the economic times improve, so will disposable incomes. Therefore, moving dental services from a highly discretionary expenditure priority to a low one. With assistance from proper authorities to provide greater dissemination of services, the public could be encouraged to seek dental health care.

For the first time, a provincial dental licensing body, the Royal College of Dental Surgeons of Ontario, has made recommendations to the Ontario Ministry of Colleges and Universities to consider reductions in enrollment. We feel this is a drastic over-reaction to today's problem. Doing something about the over-supply of dentists doesn't stop the in-migration process and the policing of this practice in turn suggests an infringement on personal rights and the freedom of choice.

Like so many professions, dentistry has become a victim of its own vested

virtues. Instead of limiting manpower or placing restrictions, aims should be re-channelled into increasing the demand for dental services by increasing utilization rates through feasible marketing strategies.

A real need exists in increasing effective usage and unless this is done, an over-supply of manpower will remain cause for concern. If statistics are true that 40-50 per cent of Canada's population is in need of dental care (at least four out of 10 people do not see a dentist), then the surplus theory is less than credible.

As concerned members of the dental profession, we sought to study alternative delivery systems and the changing mode of practice in the 1980s. As a result we have identified consumer needs for courteous, convenient and accessible service. Simple things, such as, extended hours of service (including weekends and evenings), and access in commercial retail areas, brings a favourable response from the public; particularly those who have not been seeing a dentist on a regular basis.

Our members report that 80 per cent of their patients are new users and over two-thirds are now on active re-

call programs. Plus, while administering a service to the patient, member centres also provide a job market to new graduates. The high placement volume indicates the ease with which students respond and adapt to the changing marketplace.

In our final analysis, we deem the current recommendations are in favour of those already in the dental business, thus restricting competition, and that the provincial health care system isn't doing its part in prompting people to visit their dentist.

*Dr. Brian H. Price
President
Canadian Association of
Retail Dentists*

A wine column!

The March 1983 issue of the Journal brought a surprise — a wine column! I enjoyed Michael Roberts' first column immensely, but I still can't believe that is in a scientific journal. I certainly wouldn't be shocked to see such a column in *Quest*, *Maclean's*, or similar "journals", but it seems inappropriate in the journal of an organization that is attempting to portray an image of professionalism to the profession and the public throughout the world. (Yes, I believe the Journal is world class in many of its scientific papers.)

If the trend begun by the wine column continues, I would like to be the first to write a theatre column and then expand to writing a restaurant review column.

Out of joint?

I'm grappling with the column on the grape.

Is this "upbeat filler" to assure more reader attention — or will our journal suffer beyond mention?

Such doggerel tries to make the point that maybe all is out of joint!

W. Walker Shortill, DDS

John T. Mayhall, DDS, PhD

Fluoridated water: A province-by-province survey of extent of population served

The current status of water fluoridation in Canada was recently surveyed by the Journal, prompted by an official Ontario endorsement of water fluoridation.

In a recent statement, Ontario Health Minister Larry Grossman said:

"June 20, 1982 marked the thirty-seventh anniversary of the introduction of fluoride into the Brantford water supply to improve the dental health of its citizens. Now 72 per cent of Ontario residents on public water supplies enjoy the benefits of fluoridation.

"Over the years, fluoridation has proved to be the most effective and least costly public health measure to prevent dental decay. Extensive scientific research has uncovered no valid evidence that any health problem is caused or aggravated by drinking optimally fluoridated water.

"Therefore, in accordance with the recommendations of the Canadian Dental Association, I have no hesitation in stressing the importance of fluoridation for the early prevention of tooth decay and urging its adoption by municipalities, wherever feasible, as a safe, effective and well-established public health measure."

Although official endorsements such as this have not yet been given in the other nine provinces, water fluoridation continues to benefit a good number of Canadians.

Starting in the western provinces, the Journal survey turned up these statistics for British Columbia: a total of 304,088 people are served by water fluoridation. This includes the major B.C. communities of Courtney/Comox, Cranbrook, Kamloops, Kelowna, Prince George and Prince Rupert, as well as many other smaller centres.

According to statistics provided by the Alberta Ministry of Social Services and Community Health, 42 per

cent of the population of Alberta is drinking fluoridated water. Using 1981 population figures, 919,298 Albertans (out of a total population of 2,181,374) are drinking water that is fluoridated.

Major Alberta cities currently being fluoridated include Edmonton, Lethbridge and Red Deer. According to Suzanne Walker, dental health consultant for the Alberta Community Health Services, it is expected that more Alberta communities will be fluoridating this year.

60 centres in Saskatchewan

Saskatchewan communities began fluoridating as early as 1953 and January 1982 statistics show that 60 centres in Saskatchewan have controlled water fluoridation. Approximately 294,729 Saskatchewan residents are drinking fluoridated water. These include the citizens of Moose Jaw, Prince Albert, Saskatoon and Swift Current.

Fluoridation figures for Manitoba (as of March 1982) indicate that 682,120 residents of that province are drinking fluoridated water. Major fluoridated centres include Brandon, Winnipeg and Dauphin. Some towns in Manitoba have approvals for fluoridation but do not fluoridate. These are: Beausejour, Churchill, Flin Flon, Morris, Rivers, Ste Rose du Lac and Shoal Lake.

No Ban in Quebec

Fluoridation has not been banned in Quebec, and statements made to that effect in recent years are unfounded.

Dr. Benoit LaFontaine, dental consultant to Quebec's Ministry of Social Services pointed out that in June, 1975, the Quebec National Assembly passed Bill No. 88, an Act to amend the Public Health Protection Act. The effect of this was to make

fluoridation mandatory throughout that province by the end of 1977.

The Minister of Social services was entrusted with the application of this law.

In August 1977, as a result of opposition from the Environment Ministry, the Minister of Social Services agreed to suspend the application of Articles 24 (c) and 24 (d) of the Act. These sections referred only to the mandatory provisions of the Act. The suspension, therefore, Dr. LaFontaine pointed out, did *NOT* create a moratorium, but rather, made fluoridation a matter of local option, at the discretion of the individual municipalities.

Dr. LaFontaine said that the Ministry believes fluoridation should be the basis of all programs of public dental health. For several years, the Ministry has subsidized municipalities to cover the total cost of purchase and installation of fluoride systems and even for the fluorides they use.

Current statistics show that approximately 735,000 residents of the province of Quebec enjoy the benefits of fluoridated water, or about 13 per cent of the total population.

The Atlantic provinces, with the exception of Newfoundland have not added any communities to their fluoridation program since the 1976 survey done by Health and Welfare Canada. In Prince Edward Island, according to the 1976 study, 17.6 per cent of the total population, or 20,843 residents are using fluoridated water.

In New Brunswick, 88,691 citizens are drinking fluoridated water (based on the 1976 study). This represents 13.1 per cent of the total population.

40 per cent in Nova Scotia

Statistics for Nova Scotia are better. Based on the 1976 survey, 40 per cent of the province's total popula-

Continued on next page

Convocation and Symposium will mark Manitoba Faculty of Dentistry's 25th Anniversary

On May 29, a special convocation has been planned to observe both the 25th anniversary of the University of Manitoba's Faculty of Dentistry and the Centennial of the Faculty of Medicine.

To mark the significance of both these events, special honorary degrees will be awarded to outstanding dentists and physicians in Winnipeg's Concert Hall. Receptions and social occasions will follow.

On November 18 and 19, an anniversary symposium on the theme; "Can Basic Research Influence Clinical Dentistry in the Future?" will be held at the University of Manitoba. Some of the most notable researchers from around the world will attend and make presentations.

Some of the speakers scheduled to attend include: Dr. N. Taichman, University of Pennsylvania, Philadelphia; Dr. L. Silverstone, University of Colorado; Dr. B. Krasse, University of Gotenburg, Sweden; Dr. J. Carlos, National Caries Program, NIDR, Washington, D.C.; Dr. J. Weatherell, University of

Leeds, England; Dr. G. Bowden, University of Manitoba; Dr. A. Melcher, University of Toronto, and Dr. H. Loe, National Institute of Dental Research, Washington, D.C.

A 25th Anniversary Reunion will be held in Vancouver in September, during the Canadian Dental Association Convention. A special evening has been set aside for all graduates in dentistry and dental hygiene.

First step in 1896

The minutes of the fledgling Manitoba Dental Association bear a significant notation made in 1896. A motion instructed the secretary to "interview the faculty of the Manitoba Medical College with the view to establishing a course of lectures in Dentistry." It was not until 1957, however, that the Manitoba Government acted upon the Paynter Report and allocated funds to establish and maintain a faculty of dentistry as part of the University of Manitoba.

In June of 1957, Dr. J. W. Neilson was appointed the first dean of the new faculty and the first students were admitted in the fall of 1958. At the

time only temporary accommodation was available for these students, within the Medical College facilities.

The formal opening of the new Dental College building was held in March of 1960. This was the first time in more than 40 years that an entirely new faculty of dentistry had been established in Canada. The occasion also marked the first time in Canadian dental history that such a faculty had been accorded the opportunity of planning and building its own accommodation at the time of its inception.

The Faculty has had a profound effect on Manitoba's dental health over 25 years, and statistics bear this out. From the admission of 15 students in 1958, the Faculty has graduated a total of 538 dentists, and 249 of those remained within the Province of Manitoba.

The School of Dental Hygiene, with Mrs. M. J. Forgay as the first director, was opened in 1963 and admitted the first candidates into the program. To date, 369 graduates have received diplomas in Dental Hygiene.

Fluoridated water (Cont'd)

tion, or 332,155 residents are on fluoridated water. Dr. G. P. Jocys, dental consultant with the Nova Scotia Department of Health said the only increase in the number of people on fluoridation came in the Halifax-Sackville area. This urban area has increased in population by 30,000 since 1976.

"Nobody to our knowledge has discontinued fluoride in Nova Scotia," said Dr. Jocys.

In Newfoundland-Labrador, out of a provincial population (based on the 1981 census), of 567,681, 41,846 residents are on a fluoridated water supply. Major centres in Newfoundland-Labrador which are currently fluoridated are: Cornerbrook, Goose Bay and Gander.

Cover photo

This month's cover illustration is a tribute to a major milestone in the history of dentistry in Manitoba — the Centennial year of the Manitoba Dental Association.

The scene is that of a dental operatory of 1920s vintage in which an outstanding Manitoba dentist, Dr. Harry Garvin, practised. Much-honored in his home province and the rest of Canada for his contributions to dentistry, Dr. Garvin was among many other things, the first editor of the CDA Journal.

The operatory is displayed in the Manitoba Museum of Man and Nature in Winnipeg, much as it was

when it was located elsewhere in Winnipeg in earlier years.

The Journal is indebted to the outstanding cooperation of Ross McIntyre, Secretary-Treasurer of the Manitoba Dental Association, for his efforts in arranging this photograph, and to the Manitoba Museum of Man and Nature for moving some of the furnishings in the display in order that more of it would appear in our cover photo.

Dr. Ralph Crawford of Winnipeg, a member of the CDA Board of Governors, also played a major role in arranging this tribute to the MDA.

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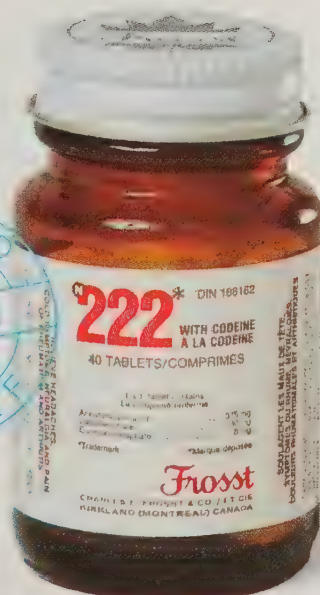
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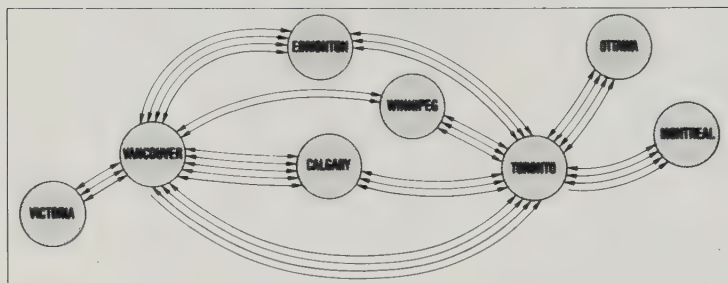
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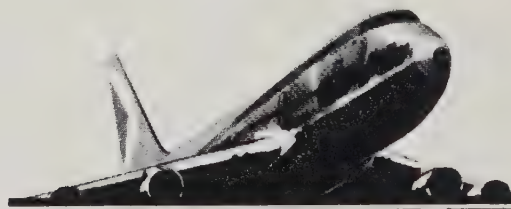
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25-28 sept. 1983



President's 'Gala' — major social event of Convention

CDA Convention hosts have pulled all the stops to extol the natural beauty of the City of Vancouver and environs and provide generous heapings of the city's multicultural richness, at the major social event — the President's Gala Evening — on Tuesday, September 27, in Hotel Vancouver.

The renowned Captain George Vancouver is scheduled to be on hand, and will do the honors of escorting the head table guests along with a parade of waiters, waitresses, strolling musicians (a seaman's band) and "some animals" (not, we were assured, a group of unpopular dentists), will appear.

A children's musical group, the Suzuki String and Winds, will provide pre-dinner entertainment and during the cocktail hour and the dinner, an eight-piece string and woodwind ensemble will provide background music.

While the gourmet meal is being served, chorus girls will appear during each course. It has not been revealed what the chorus girls will actually do, this information has been withheld as one of the several surprise elements of the gala event.

Some of the multicultural attractions will also appear between courses. These will include musical performances by the Suzuki Senior Strings, a banjo group, Chinese dancers and four bands, including the Vancouver Police Band.

Following the dinner, there will be dancing to the Big Band Sound — from 9.30 p.m. to 12.30 a.m.

The ballroom will feature colorful

mural backdrops depicting Vancouver's skyline, and the band will play from a stage simulating a bandstand in a park.

Council on Student Affairs meets in Ottawa



At a meeting of the CDA Council on Student Affairs, held at CDA headquarters building in Ottawa, March 7 — 8, two of major items discussed were the Student Conference in Vancouver in September and the student membership campaign for 1984. Following the session they posed for this photo. They are, left to right, front row: Dr. Bob Brandon, consultant, London, Ont.; Miss Linda Teteruck, Director of Education, CDA; Dr. Rita Hurley, Montréal; Miss Jane Metler, University of Western Ontario, London; Mlle Julie Boudreau, Université Laval, and Mr. Don Trider, Dalhousie University, Halifax. Back row, left to right: Dr. Brad Holmes, CDA Executive Council liaison; Mr. Tim Barker, University of Saskatchewan; Mr. Ed Busvek, University of Toronto; Dr. Peter Judd, Toronto; M. Alain Thivierge, Chairman, Université de Montréal; Mr. Rick Chilibeck, University of Alberta; Mr. Bob Scott, University of British Columbia; Mr. Peter Kowal, University of Manitoba; Mr. Dave McLeod, Saskatchewan, and Mr. Andy Hasegawa, McGill University, Montréal (Absent — M. André Ruest, Université de Montréal.)

Dental Hygienists' and Assistants' Convention theme is "Conference on the Coast"

Plans for the Canadian Dental Hygienists' and Dental Assistants' Association conventions in Vancouver, from Sept. 25 to 28, have been finalized.

In clinic sessions on Monday, Sept. 26 in the Four Seasons Hotel, the hygienists will be addressed by Dr. Robert J. Whitacre on "Infection Control" in the morning, and Heather Hagerman will present "Maintaining Motivation in Children," beginning at 2 p.m.

In the Georgia Hotel, the CDAA delegates will hear Dr. Robert Myall speaking on Pathology in the morning, and 2 p.m., Marjorie Dimitri and Claudia Anderson will lead a session with the theme; "If It's Going To Be, It's Up to Me."

On Tuesday, Sept. 27 at 9 a.m., Edita Whipple will lead a CDHA session on "Wardrobe Planning," and at 10.45 a.m., Sue Hills speaks on "Pre and Post-Natal Fitness." At 2 p.m., Bill Collett will deliver a lecture on "Radiology" and at 3.30, Karin Sipko will give an "Update of Oral Hygiene Techniques."

Assistants will hear a presentation by Jack Allen and Gary Little at 9 a.m. on Tuesday. The subject of this session will be: "Much More Than By the Skin of Your Teeth: A New Look at People Handling Skills for the Successful Dental Professional." Assistants will also attend Dr. Collett's lecture on radiology, at 2 p.m.

In the CDHA session on Wednesday, Sept. 28 at 9 a.m., Dr. Ben Wong (MD) and Dr. Jock McKean (MD) will lead a session entitled: "Are We Killing or Curing?" This lecture will continue after 1 in the afternoon.

Meanwhile, at the Georgia Hotel, Assistants will hear a presentation by Diana Cawood, "Career Planning Your Work Life Today: A Balancing Act."



Social program

Social and recreational events begin with the Funn Runn in Vancouver's Stanley Park at 8 a.m. on Sunday, Sept. 25. This is open to participants from the CDA, CDHA and CDAA.

For the hygienists, a cruise on the Vancouver harbor ferry boat "Britannia" will begin at 4 p.m., and will include complimentary wine and hors d'oeuvres.

A registration party has been arranged for all three groups, from 8

p.m. to midnight. Spouses and exhibitors will also be welcome at this event.

On Monday, Sept. 26 at noon, the CDHA President's Luncheon will be held at the Four Seasons Hotel. There will be door prizes. A luncheon has also been scheduled for Assistants.

At 5 p.m. on Monday, a combined CDA, CDHA and CDAA cocktail party and "no host" dinner are on the agenda. An arts and crafts marketplace will be set up during these events.

Hygienists may enjoy a "Night About Town", beginning at 7 p.m. The locale will be some of Vancouver's finest restaurants. Concurrently, there will be a UBC Alumni Reunion dinner.

Hygienists and Assistants will enjoy a combined social event, "A Night at the Aquarium," on Tuesday, Sept. 27, from 7 p.m. until midnight. At 8 p.m., the "Whale Show" will be staged. There will be dancing, a cash bar and snacks.

On Wednesday, Sept. 28, from 8.30 to 10 a.m. a somewhat less formal, wind-down event, called "Brunch and Learn" — for dental hygienists and their employers, will mark the end of the social functions.

Scientific program changes

The old adage about what happens on occasion to the best-laid plans holds true for the organizers of the scientific program for the CDA Convention in Vancouver Sept. 25-28.

Circumstances have forced revisions to a few aspects of the program announced in the April edition of this Journal.

Panel discussions will take place on Monday morning, Sept. 26, including one on forensic dentistry and another on infection control. The subject matter was previously scheduled to be oral surgery and removable prosthodontics.

dontics.

Two panel discussions are slated for the afternoon of Sept. 26, one on endodontics and the other on operative dentistry. The first subject was originally intended to be infection control.

Three panel discussions will also take place on Wednesday morning, Sept. 28: one on fixed prosthodontics, one on oral surgery and one on removable prosthodontics. The latter two were originally scheduled to be on the subjects of forensic dentistry and endodontics.

Funding is being sought from Ontario Government for treatment of craniofacial anomalies

An Ontario program for children with congenital facial deformities, primarily cleft lip and palate, may be getting government funding.

The Ontario Dental Association is preparing a proposal for the provincial government requesting funding for the present program.

John Gillies, Executive Director of the Ontario Dental Association said "We fully expect that the funding will be made available by the province to be tied in with our present co-ordinated program."

Ontario and Prince Edward Island are the only provinces where dental treatment, especially for facial deformities, is not funded directly by the provincial government.

Dr. Rod Moran, who is preparing the proposal for the ODA said all dental care in Ontario is the responsibility of the individual.

"But children with craniofacial anomalies have special needs which are over and above those of the general population and these needs are expensive."

"It costs approximately \$10,000 to treat a child with a facial anomaly such as cleft lip and palate. This treatment includes oral surgery, orthodontics, periodontics, speech therapy and counselling," said Dr. Moran. "Government funding for this type of program would have to be extensive."

Although funding has not been available from government sources Ontario has a comprehensive program for children with these problems.

"Ontario has excellent treatment facilities for these kids and ways have always been found to pay for treatment for those who could not afford it, either through the profession or through service clubs," said Mr. Gillies.

In Quebec, cleft lip and palate treatment is partially funded by the provincial government. According to Dr. Gerald Albert at the cleft lip and palate clinic at Ste. Justine Hospital in Montréal, the only part of the treatment not funded by the province is the last stage: prosthetics. The Montréal clinic has been in existence since 1963 and has complete treatment facilities.

In Manitoba, the present cleft lip and palate program has been in operation for two years and is fully funded by the provincial government.

'Fully funded' in Alberta

In Alberta, "the cleft lip and palate treatment program is fully funded," said Dr. B. Martinello, Executive Director of the Alberta Dental Association.

In British Columbia a special program covering these problems has been in existence "a long time and is covered under medicare," said Ken Croft, Managing Director of the College of Dental Surgeons of B.C.

Saskatchewan, provides cleft palate treatment primarily, including oral surgery and orthodontics for children, which is covered by the Sas-

katchewan Medical Care Insurance Commission.

Saskatchewan provides clinics

"There are cleft palate clinics held weekly, primarily at the University Hospital in Saskatoon, but also in Regina," said Dr. George Peacock, Secretary-Treasurer of the College of Dental Surgeons of Saskatchewan.

In New Brunswick, the funds needed for a cleft palate team, including oral surgeons, orthodontists, speech therapists and counsellors are provided by the provincial government.

Newfoundland's Department of Health provides "comprehensive coverage, including all orthodontic and restorative treatment needs," said Dr. Toby Gushue, Executive Secretary of the Newfoundland Dental Association.

The same is true of Nova Scotia, but the cleft lip and palate program is separate from any other provincial program.

"The program in Nova Scotia is run by the Department of Health and covers all services. It has been in existence since 1977," said Mr. D.V. Pamenter, Executive Director of the Nova Scotia Dental Association.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association's Retirement Savings Plan stood as follows on March 31, 1983.

<i>Common Stock Fund</i>	\$66.9470
<i>Fixed Income Fund</i>	\$35.2139
<i>Guaranteed Fund</i>	\$25.7973
<i>Balanced Fund</i>	\$13.6961

Total assets (market value) of the plan were \$35,480,000.

The previous month's figures, as of February 28, 1983, stood as follows:

<i>Common Stock Fund</i>	\$65.4537
<i>Fixed Income Fund</i>	\$34.8183

<i>Guaranteed Fund</i>	\$25.5898
<i>Balanced Fund</i>	\$13.4029

Total assets (market value) of the plan were \$35,324,279.

For further information write to: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3 or call the central information services of CDSPI at 1-800-268-5418 (toll free number for Western Canada, Atlantic Canada and Ontario for Code 807 only), 1-800-268-3411 (toll free number for Quebec and Ontario except Code 807), and 497-7117 (Metro Toronto area).

Murder suspect with major dental problems may seek treatment to relieve his pain

Metropolitan Toronto Police are seeking information that will lead to the arrest of a man known as Dennis Melvyn Howe, in connection with the death of strangulation, of nine-year-old Sharin Morningstar Keenan, in Toronto, on or about January 23, 1983.

The suspect, who has also used the aliases of Michael Burns, Wayne King, Ralph Ferguson and Jim Myers, has dark brown hair, greying at the sides, brown eyes, has a weathered complexion, wrinkles on the forehead, a small gap between his front teeth, a hairy

chest and arms, square shoulders, a scar under his chin, crooked little fingers, is left-handed, has a deep jovial laugh, is known to wear a mustache, walks quickly, smokes heavily (Players unfiltered cigarettes) and frequently uses the expression "Turkeys."

He is about 175 cms in height (5' 9") and weighs about 75 kgs or 165 pounds.

At the moment, he is likely to weigh less, because he has major dental problems, and would have difficulty eating.

He is known to be in pain be-

cause of these dental problems and he uses orajel frequently to dull the pain. Police say he will require dental attention shortly and is likely to seek this from a dentist or in a hospital.

Any dentist or auxiliary with information about this person is requested to contact their local police force or the Metropolitan Toronto Police, Homicide Squad.

The identity of any persons supplying information will be treated as strictly confidential.

Telephone number of the Toronto Police is (416) 967-2375.



Dennis Melvyn Howe

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Date	Oxy	Phosphate	Silicate	Cement	Pulp Cap	Devitalization	Cement Filling For Amalgam	Root Filling	Amalgam Simple	Amalgam Compound	Extraction With Anesthetic	Extraction Without Anesthetic	Cleaning and Scraping	Dentures		
21-11-69																
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1-9-70											4	5				
18-9-70																
26-10-70																
12-1-73																
16-1-73																
25-1-73																

Prison dental chart reveals condition of suspect's teeth.

THE DENTAL SPECTRUM ANTIBIOTIC

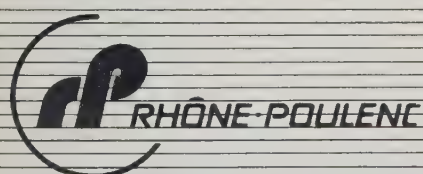
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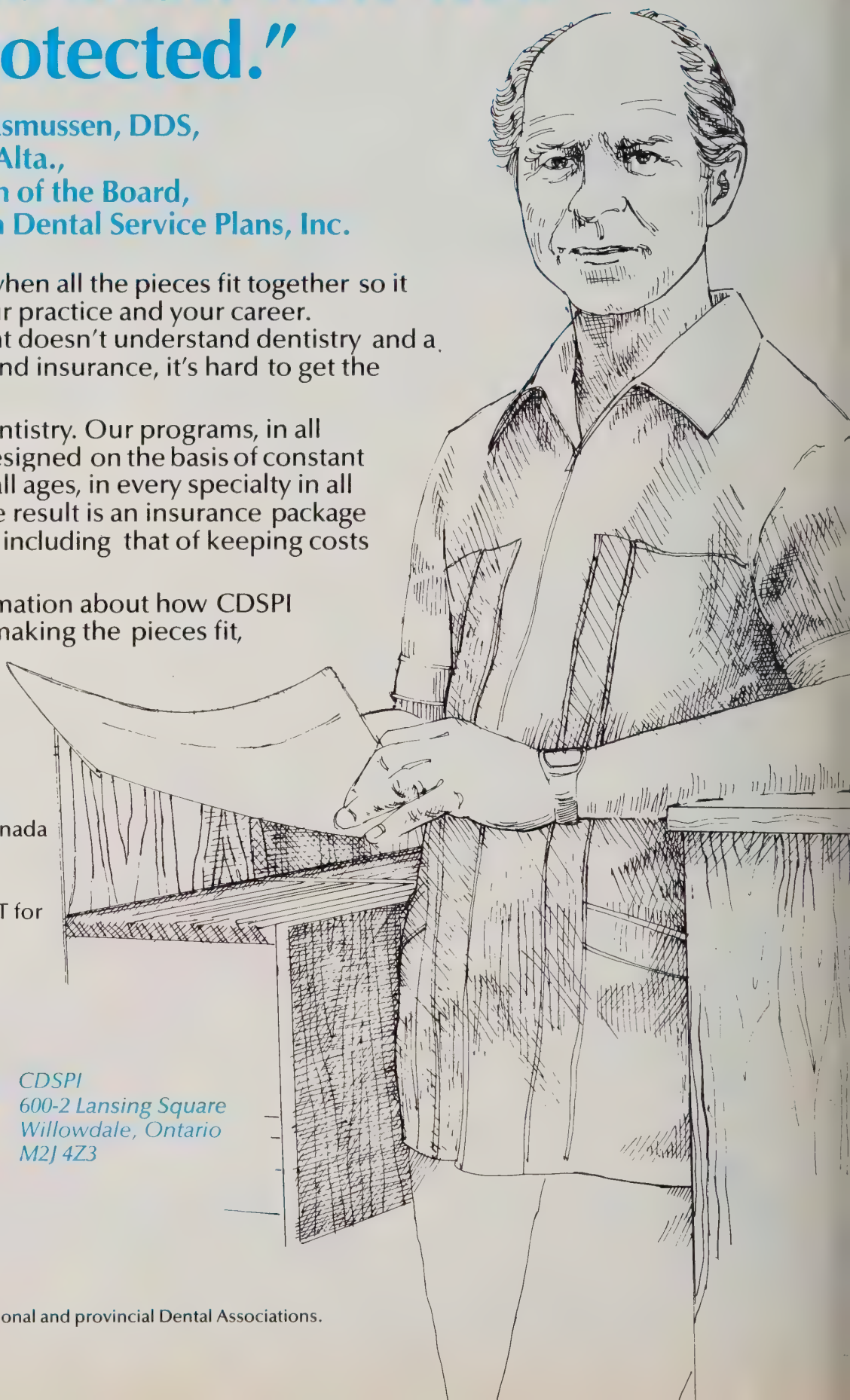
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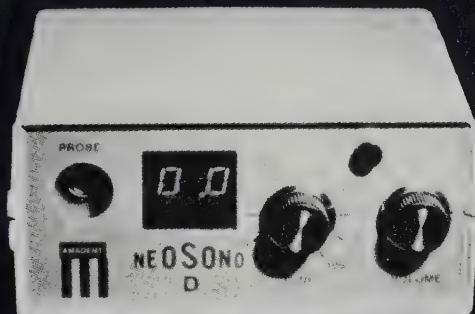
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- a) a reversal of the original decision with insurance being granted on the basis applied for;
- b) no change in the original decision declining the application;
- c) an offer to issue insurance on an individual basis outside the Canadian Dentists' Insurance Program (CDIP);
- d) a postponement for a year or so with the suggestion that you reapply at a later date.

It's important to understand that a mechanism does exist within the

CDIP permitting you to challenge the underwriting decisions of the insurance company.

For more information or assistance, call CDSPI through our Central Information Service:

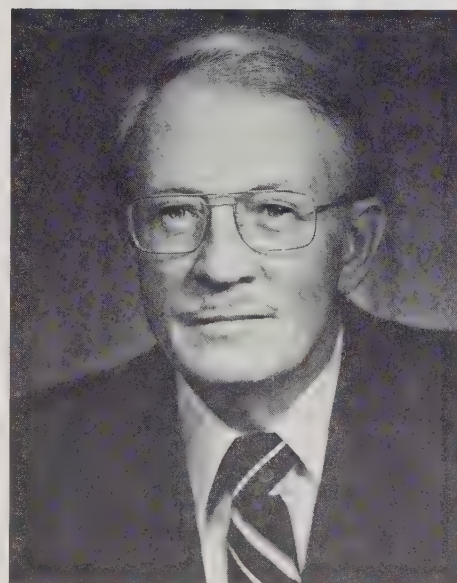
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497-7117	Metro Toronto

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Dr. William Spence

Former President of CDA, elected VP of International College



Dr. William Spence

Dr. William Spence of Toronto, Ont., was elected vice-president of the International College of Dentists at the November 5, 1982 annual meeting of the Executive Council of the College.

This is the first time since 1966 that a Canadian has been accorded this honor. Dr. Spence is only the fourth Canadian to have attained this office.

In line of succession, Dr. Spence will be inducted as President of the

College in 1984, when the Executive Council will convene its annual meeting in Montréal in conjunction with the Canadian Dental Association Convention.

Dr. Spence is engaged in an orthodontic practice in Toronto and has found time to fill the office of President of the Canadian Dental Association, in 1970, and earlier served as President of the Ontario Dental Association.

He attained a Fellowship in the International College of Dentists in 1967 and in 1977, became Registrar for the Canadian Section, a position he continues to hold.

During the Second World War, Dr. Spence served in the Royal Canadian Air Force as a pilot on active service in Europe from 1941 to 1945. He retired with the rank of Flight Lieutenant.

He received his DDS degree from the Faculty of Dentistry, University of Toronto, in 1951 and began postgraduate studies at Northwestern University. He graduated there with an MSc in Dentistry in 1953.

Briefly —

The Nova Scotia Dental Association will be submitting a brief in the near future on provincial dental health concerns to the provincial government's Select Committee on Health.

This all-party Committee made up of provincial MLAs is currently holding public hearings throughout Nova Scotia. These hearings are designed to examine any aspect of provincial life related to health. The Committee has been in existence for about six months.

Don Pamenter, Executive Director of the Nova Scotia Dental Association said the Committee is now receiving briefs, information and recommendations from health organizations covering all aspects of health in Nova Scotia.

"They have asked no one in dentistry to submit a brief to the Committee but the Nova Scotia Dental Association intends to do so," said Pamenter.

"The Association currently has no issues of concern that are not already being discussed elsewhere in the provincial government in the appropriate departments, but we are concerned that we will be conspicuous by our absence if we do not present the interests of dentistry in Nova Scotia to this Committee," Pamenter said.

St. John Ambulance celebrates its 100th year of operation this year.

Celebrations are planned for across the county and will be most notable in June.

The national headquarters in Ottawa will be hosting the first annual National First Aid and Home Health Care Competition June 3-5, 1983. At that time, the Grand Prior of St. John Ambulance, H.R.H. the Duke of Gloucester, will be visiting Ottawa to take part in the festivities.

An international conference of St. John Ambulance brigades will be held in Toronto June 13-16.

On June 24th, Saint John's Day, the Post Office will issue a commemorative stamp and first day cover to mark the 100th anniversary.

Dr. Marcel Proulx has been appointed to a three-year term as Director of the School of Dental Medicine at Laval University in Ste.-Foy Québec.



Dr. Marcel Proulx

Dr. Proulx graduated in 1964 from the University of Montréal, Faculty of Dentistry. He did graduate studies in periodontics at Boston University School of Graduate Dentistry from 1970 to 1972, obtaining his degree in periodontics in 1972.

He is an associate professor at Laval's Faculty of Dentistry in periodontics, and has been with the school since 1970. Dr. Proulx was founder of the Periodontics Section in 1972, and developed courses in that specialty.

From 1964 to 1970 he was in private practice with Drs. Guy Renaud and Yves Poulin, in Ste-Foy, Québec.

Dr. Proulx succeeds Dr. R. Vallée in this position.

Dental researchers at the University of Western Ontario are currently investigating substances that may regenerate the bone lost to periodontal disease.

Dr. James Stakiw, of the Department of Oral Medicine in the Faculty of Dentistry, and his co-researchers, Dr. Stan Kogon and Dr. J. Douglas Awde, are studying how effective a

synthetic substance, called Periograf, and a freeze-dried decalcified human bone preparation are in aiding bone regeneration around the teeth.

"Each material seems to act as a scaffold that the bone regenerates on," said Dr. Stakiw.

A \$35,000 grant from the Cooke-Waite Pharmaceutical Company was given to the researchers to conduct a long term study of the effectiveness of the synthetic and the human bone preparation.

About 40 patients will be treated with both substances and monitored over a three to five year period.

The Canadian Standards Association has recently announced that several new standards are now available from their offices at 178 Rexdale Blvd., Rexdale (Toronto), Ont., M9W 1R3.

Those of special interest to dentists are the following: Z317.11, Area Measurement in Health Care Facilities (\$24.95); Z323.2.1 Prosthetics and Orthotics, Terminology, Definitions and Identification (\$9.95); Z323.3.1 Electrical Aids for Physically Disabled Persons (\$9.95); Z349.6 Alginate Dental Impression Material (\$12.00); Z349.16 Alloys for Dental Amalgam (\$10.00), and Z441 Terminology and Definitions used in CSA Health Care Technology Standards (\$9.95).

An order form is available from the above address.

A co-operative research effort between the University of Saskatchewan and Louisiana State University may yield a new caries prevention device.

Dr. Larry Christensen of the Department of Oral Biology at the University of Saskatchewan and Dr. Ralph Rawls of the Department of Biomaterials at Louisiana State University in New Orleans, are studying a plastic material that incorporates fluoride in its structure.

When placed in saliva, the material is subject to what is called in chemistry the anion exchange principle, the

same principle that is at work in certain water softeners.

Over a long period, the fluoride ions (charged atoms) in the plastic change places with chloride and other ions in the saliva. Since it retains its shape and hardness, the plastic would appear suitable for use in dental appliances and fillings. The fluoride would then combat the tooth decay that can occur where, for example, partial dentures or other appliances are in contact with natural teeth. It would also help prevent secondary caries associated with fillings.

Once their fluoride is depleted, the appliances could be recharged on the basis of the same anion exchange principle. They would be placed overnight in a bath of fluoride, which they would incorporate in exchange for the chloride they picked up from the saliva.

Dr. Christensen is studying the physical properties of the new material and the amount of fluoride that is released. Dr. Rawls is studying the use of the new material in dental fillings and orthodontic adhesives.

It is expected that the material will be ready for clinical testing in one or two years.

For the first time in its 62 year history, the Journal of Dental Research has a Canadian dentist as editor.

Dr. Colin Dawes, Professor of Oral Biology at the University of Manitoba succeeded Dr. Barnet Levy as editor of the magazine in March.

Dr. Dawes is a 1958 graduate of the University of Manchester, in dentistry and science. He also has a PhD from the University of Durham. He has taught at Harvard University and has been at the University of Manitoba since 1965.

He is currently Director of Dental Graduate Studies and Research at the University of Manitoba.

Dr. John M. Dillon of Winnipeg Manitoba, was recently elected President of the Manitoba Dental Association.

Dr. Dillon graduated in 1969 from the University College, Dublin Na-

tional University of Ireland Dental School. He has been practicing in Winnipeg since 1973.



Dr. John M. Dillon

With the Manitoba Dental Association, Dr. Dillon has been a member of the Mediation and Peer Review Committee for three years, and also a member of the Dental Health Month, Hospital Review and Third Party Committees. In 1982, Dr. Dillon served as Registrar for the province of Manitoba. He has been a Board member of the Association for two years.

He succeeded Dr. Gene Solmundson of Winnipeg as president.

This year marks the 25th Anniversary of the dental assistants organization in Saskatchewan.

In 1958, the charter meeting of the Saskatchewan Dental Nurses and Assistants Association took place in Regina. At that meeting, the Association was incorporated and a new constitution accepted by the membership.

Over the past 25 years, the Saskatchewan Association has done many things of significance for dental nurses and dental assistants in the province. These include an annual convention, a permanent newsletter, an active role in various studies of dental assisting in the province and voting representation on Council to the College of Dental Surgeons of Saskatchewan.

In 1981, the name of the Association was officially changed to the Saskatchewan Dental Assistants' As-

sociation, and a permanent office and administrative assistant established.

Anniversary celebrations took place at the Saskatchewan Dental Convention in Prince Albert, April 28-30, where past Association presidents gathered at a luncheon in their honor.

Dr. Jeff Osborn, a member of the Faculty of Dentistry in Oral Biology at the University of Alberta, has been awarded at McCalla Professorship for the year 1983-84.

This award allows its recipients to take a nine month sabbatical from teaching and instead use the time to do research at the University.

Dr. Osborn is the first recipient of the Professorship to come from the Faculty of Dentistry.

The McCalla Professorship is one of the University of Alberta's most prestigious awards.

An enterprising dentist in Terre Haute, Indiana, has his own little piece of the sun.

Dr. Byron Rutledge Jr. built and practises in the town's only solar building. He recently won an award from the local Chamber of Commerce for "outstanding building and grounds."

The office building has nine operatories, each with a skylight, and the basement, besides containing a lounge, supply room and lab room, contains the solar storage area.

According to Dr. Rutledge, the solar collectors provide 50 per cent of the building's heat. The steeply slanted roof holds 30 78-inch by 36-inch glass panels. These panels collect heat which is pulled down in ducts to 5,000 eutectic salt trays located in the solar storage area in the basement. The trays heat up and the salt liquifies and as the trays cool and the salt solidifies again it gives off heat. The heat is pumped out of the room and supplemented by electric heat pumps. According to Dr. Rutledge, the building can store a three-day heat reserve.

Dr. Rutledge occupies the office building with two other dentists and all three are general practitioners.

Obituaries/ Nécrologie

CLEMENS, R. L.: A graduate of the University of Toronto in 1951, Dr. Clemens was born in 1916. He was a CDA member and resided in Waterloo, Ontario.

COLEMAN, William B.: Dr. Coleman, a graduate of Dalhousie University Faculty of Dentistry in 1952, practised in Cape Breton, Nova Scotia.

CORCORAN, John: Dr. Corcoran, of Midland, Ontario, was a graduate of the University of Toronto in 1943.

GARFIELD, B. D.: Dr. Garfield, a resident of Toronto, was a life member of the Canadian Dental Association. Born in 1900, Dr. Garfield graduated from the R.C.D.S. at Toronto in 1922.

LARMOUR, W. W.: Dr. Larmour, a retired Ottawa dentist, died on February 13, 1983.

LESLIE, Harold E.: Dr. Leslie, a life member of the Canadian Dental Association, graduated from the University of Toronto in 1935. He resided in Toronto at the time of his death.

LUKE, Ralph: Dr. Luke, a resident of Toronto, was a life member of the Canadian Dental Association. Born in 1908, he graduated from the University of Toronto in 1933.

MCINNES, A. Clare: Dr. McInnes of Winnipeg Manitoba, was born in 1896. He graduated from the University of Toronto, setting up practice in Manitoba in 1924.

RABATICH, Peter: Dr. Rabatich, who practiced dentistry in Saskatoon, Saskatchewan, graduated from McGill University in 1949. He was born in 1919.

TALBOT, Rodolphe: A life member of the Canadian Dental Association, Dr. Talbot graduated in dentistry in 1933. He was born in 1906 and lived in Québec City.

WALDEN, D. H.: Dr. Walden, a graduate of the University of Toronto in 1930, was born in 1906. He practised dentistry in Port Hope, Ontario, for 45 years and was a Life Member of the Canadian Dental Association.

WALTERS, Warner F.: Dr. Walters was born in 1928 and graduated from the University of Alberta in 1954. He was a native of Melville, Saskatchewan and practised there from his graduation until the time of this death.

ZINN, J. H.: Dr. Zinn, of Shelburne, Ontario, graduated in 1915 from the Royal College of Dental Surgeons, School of Dentistry in Toronto. He was a member of the Canadian Dental Association.

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REFERENCES

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4. Kernbaum S. La spiramycine: Utilisation en thérapeutique humaine. *Sem Hôp Paris* 1982; 58(5):289-97.

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BODY WEIGHT	DOSAGE IN CAPSULES ROVAMYCINE '250' (750,000 I.U. SPIRAMYCIN/CAPSULE)
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20 kg	4 capsules/day
30 kg	6 capsules/day

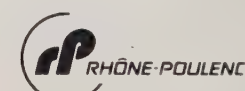
Spiramycin is stable in gastric juices and absorption is not affected by food.

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REVISED: April 1982



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Future needs in Canada for dentists with public health training

J.L. Leake, DDS, DDPH, MSc.
Toronto

SUMMARY

In October 1981, a survey of employers of dentists with specialty training in dental public health was undertaken to determine the need for these specialists over the next two five-year periods. The survey consisted of a mailed questionnaire, sent to directors of dental services in all provinces, the federal government, the Canadian Armed Forces and faculty deans. The return rate was 100 per cent. The survey determined that there were 167.5 positions in Canada, 142.5 of these full-time. The majority (128) of these dentists were employed in the provincial or local public health systems. Only 62 per cent of the present positions were filled by dentists with specialty training and 11 per cent of the positions were vacant. The number of positions is expected to increase to 197.5 by 1991, and the survey showed that 67 dentists are expected to need training over each of the next five-year periods. The prairie provinces and Quebec will require 76 of the 134 positions.

Over one-third of employers experienced difficulty in recruiting qualified staff over the previous five years, and this has resulted in vacancies and the recruitment of foreign dentists and dentists without specialist training. Projections of the numbers of future positions obtained in a similar fashion four years previously slightly underestimated the number of positions reported in 1981. Both employers and the training facility need to plan, in order to meet these future needs.

The subject of health manpower planning is one that has occupied the expert committee of the World Health Organization,¹ Canadian dental organizations,² Canadian researchers³ and private dentists.⁴ While much of the interest has been focused on the supply of primary practitioners, the supply of dental specialists in Canada is also gaining attention.⁵

One of these specialties is dental public health, which is unique in that almost all specialists function as employees. The demand for dentists with training in dental public

SOMMAIRE

En octobre 1981, un sondage a été effectué auprès des employés travaillant pour un dentiste et possédant une formation dans une spécialité reliée à l'hygiène dentaire publique. Visant à déterminer les besoins de ces spécialistes au cours des deux prochaines périodes de cinq ans, ce sondage se composait d'un questionnaire qu'on a posté aux directeurs des services dentaires de toutes les provinces, au gouvernement fédéral, aux Forces armées canadiennes et aux doyens des facultés dentaires. Tous ont rempli le questionnaire. D'après le sondage, le Canada compte 167.5 postes de spécialistes pour le domaine en question, dont 142.5 sont des postes à temps complet. La majorité de ces dentistes, soit 128, travaillaient pour les services d'hygiène publique provinciaux ou municipaux. Seulement 62 pour cent des postes étaient occupés par des dentistes possédant une formation dans une spécialité et 11 pour cent des postes étaient libres.

On prévoit que le nombre des postes atteindra 197.5 en 1991 et, d'après le sondage, on compte que 67 dentistes auront besoin d'une formation particulière au cours de chacune des prochaines périodes de cinq ans. Le Québec et les provinces des Prairies compteront 76 des 134 postes. Plus d'un tiers des employeurs ont éprouvé des difficultés à recruter du personnel compétent durant les cinq années précédant le sondage; c'est pourquoi certains postes n'ont pas été comblés alors que d'autres ont été occupés par des dentistes étrangers ou sans formation de spécialiste. Quatre ans auparavant, à partir d'un sondage semblable, on avait prévu un nombre de postes futurs légèrement inférieur à celui de 1981. Employeurs et maisons de formation doivent recourir à la planification de manière à répondre aux besoins de l'avenir.

health is, therefore, determined by the professional staff complements in dental programs operated by governments and by the number of positions in university departments of community dentistry. Accordingly, the

Continued on next page

TABLE I

Number and Status of Dental Public Health Positions in Canada
by employing agency as of October 1981

Number of positions ordinarily filled by dentists with public health training	Provinces		Universities		Canadian Forces	Federal Govt.	Total	
	FT	PT	FT	PT	FT	FT	FT	PT
Established	104	24	19.5	1	4	15	142.5	25
Vacant	12	3	2	0	0	2	16	3
Filled by persons without training	34	1	3	0	1	6	44	1
Filled by persons with training	58	20	14.5	1	3	7	82.5	21

Note: FT = full-time
PT = part-time

need for dental public health specialists can be determined from what Goldfarb⁶ calls counting the job slot approach or a job vacancy model.

In Ontario, the Postgraduate Manpower Committee of the Council of Ontario Faculties of Medicine (PGM-COFM) regularly reviewed the needs for training of dental specialists. Latterly, this function has been assumed by the Ontario Ministry of Health.

This paper reports on a survey of the need in Canada for dentists with dental public health training, completed by the Dental Public Health Subcommittee* and discusses the implications of what appears to be a continuing shortage of such specialists. The survey was conducted in October 1981.

CONTEXT OF THE PRESENT STUDY

In Canada, dental public health is a specialty recognized by the Canadian Dental Association, with eligibility criteria established by the national dental specialty degree-granting body, the Royal College of Dentists Canada — RCD(C). While most provinces accept the RCD(C) standard, a few,⁷ for example, Ontario,⁸ have separate criteria for recognition of specialists in dental public health.

While training opportunities in dental public health exist in other countries, including the United States and Great Britain, there is only one Canadian program. This is offered at the Faculty of Dentistry, University of Toronto. It consists of a two-year, combined program, in which

both a Diploma in Dental Public Health (DDPH) and a Master of Science (MSc) degree are awarded. Prior to 1980, the one-year (DDPH) program was the usual course of training and the Faculty awarded 189 such diplomas in the period 1946-1981. In the five-year period 1977-1981, inclusive, 27 dentists received specialty training at the University of Toronto; however, eight of these were foreign-trained dentists who were not expected to serve in Canada. Thus, Toronto trained 19 Canadian dentists over the most recent five-year period; this low number is mainly the result of the limited number of Canadian applicants.

PREVIOUS STUDIES

In 1977, survey of federal and provincial dental directors and faculty deans was undertaken by the same Subcommittee. The conclusions of that survey were that six to 14.5 dentists² with dental public health training would be needed annually in Canada. Accordingly, the recommendation was that the University of Toronto should continue to accept four to 10 trainees each year.⁵

MATERIALS AND METHODS

The survey was conducted using a mailed questionnaire which was designed to determine present staff complements, the status of those positions, future plans for expansion or replacement of staff, current salaries and other information considered important by the committee members and consultants.

The survey form was sent to the directors of dental services in all 10 provinces and the federal government, to deans of all 10 faculties of dentistry and the Director of Dental Services for the Canadian Forces. The instrument

*The committee included: J.L. Leake (Chairman), D.W. Banting, A.M. Glenny, S.K. Tandan, with consultation from A.M. Hunt, D.W. Lewis and N.A. Farrell.

TABLE II

Future Dental Public Health Training Requirements for Present Incumbents,
Future Replacements for and Future Additions to Canadian Positions over
the next 1-5 and 6-10 years by employing agency — October 1981

Period	Position Location	Present incumbents		Future replacements		Future additions		Total	
		FT	PT	FT	PT	FT	PT	FT	PT
1-5 yrs.	Provinces	8		26	5	13		47	5
	Universities	1		4		4		9	
	Canadian Forces	0		2		0		2	
	Federal Govt.	1		3		0		4	
	Total	10		35	5	17		62	5
6-10 yrs.	Provinces	1		43	1	13		57	1
	Universities	0		3		0		3	
	Canadian Forces	0		3		0		3	
	Federal Govt.	0		3		0		3	
	Total	1		52	1	13		66	1

Note: FT = full-time
PT = part-time

was modified slightly to fit the circumstances of the four types of employer, but answers to the same questions were obtained. With the assistance of a telephone follow-up, a response rate of 100 percent was achieved. The survey was completed accurately by all but three respondents; corrections were made where obvious inconsistencies occurred. The changes were made with the assistance of some comments written by the respondents and from a position of some knowledge by the author of the local or provincial circumstances. The edited results were used to compile the tables.

FINDINGS

Table I outlines the number and status of the current dental public health positions in Canada. In the survey, 142.5 full-time positions and 25 part-time positions were identified as ordinarily being filled* by a dentist with public health training. Of the 167.5 positions, 128 (76 percent) were identified by the provincial dental directors as being in regional or local dental public health programs or other areas of provincial responsibility. Thirty-eight of the full-time positions were in Quebec and 22 were in Ontario. Universities were the next largest employer, with 20.5 (12 percent) of all the positions, followed by the federal government with 15 (9 percent). The Canadian Armed Forces ordinarily has four (2 percent) of the positions.

The question read: "How many established positions are there that would ordinarily be filled by a dentist with formal dental public health training?" It is not known how many positions require the training or are filled with the candidate's agreement to obtain the training subsequently. However, it is known that no federal position requires such training.

Of the 167.5 positions, 103.5 (62 percent) were filled with trained personnel, 19 (11 percent) were vacant and 45 (27 percent) were filled by dentists without public health training. Calculating the percentage of the number of positions successfully filled by qualified staff reveals that the provinces had 61 percent, the universities had 76 percent, the Canadian Forces, 75 percent and the federal government, 47 percent.

Table II shows the reported future dental public health training requirements for dentists in Canada over the next 1-5 and 6-10 years. If part-time positions are included, the returns indicate exactly the same number — 67 required over each period. Provincial dental directors report the greatest need, with a total of 52 in the first five years and 58 in the second five-year period. In each period the provinces project an additional 13 positions (total of 26). The balance of training needs, 39 and 45, will be for present incumbents or replacements for dentists who retire.

The deans of universities estimate they will require four new staff members and five incumbents or replacements trained within the next five years, plus three additional replacements trained within 10 years. Together, the Canadian Forces and the federal government will require 12 trained people — six in each five-year period.

Table III shows the geographic location and type of agency for which training the 134 full-time and part-time public health dentists is projected. The greatest need over the next 10 years is projected to occur in the prairie provinces, where the provincial services will require 37 and the universities six — a total of 43 trained dentists. Second in order of need is the Province of Quebec, where it is estimated that 33 placements must occur. Projected needs in the other jurisdictions over the 10-year period

Continued on next page

TABLE III

Future Dental Public Health requirements for Canadian
Positions Over the Next 1-5 and 6-10 Years by
Region of Canada and Employing Agency

Period	Atlantic		Quebec		Ontario		Prairies		B.C.		Canadian Forces Federal Govt.	Total
	Prov.	Univ.	Prov.	Univ.	Prov.	Univ.	Prov.	Univ.	Prov.	Univ.		
1-5 yrs.	5	0	11	2	11	1	22	5	3	1	6	67
6-10 yrs.	10	0	19	1	7	0	15	1	7	1	6	67
Column Total	15	0	30	3	18	1	37	6	10	2	12	134
Regional Total	15		33		19		43		12		12	134
Prov. = Provincial or local services Univ. = University faculties												

are: Ontario 19, the Atlantic provinces 15, the federal services and British Columbia 12.

The provincial dental directors were asked to report on the number of dentists with dental public health training who were working in positions where the training was not required. A total of 15 dentists were so identified and were thought to be practising in private clinical practice, in salaried positions where clinical duties are paramount or were working in other occupations. Eight of these were reported in British Columbia, three in Ontario, three in the prairie provinces and one in the Province of Quebec.

The respondents were asked to provide data on the 1981 annual salary (in thousands of dollars) for a dental public health officer working at the local or regional public health level. Beginning salary levels ranged from \$34,000 to \$43,000, and five-year salary levels ranged from \$42,000 to \$55,000. The maximum starting salaries fall well below average professional earnings of self-employed dentists who reportedly earned \$50,091 in 1979,⁹ the latest year for which statistics are available.

A further question asked whether employers encountered difficulties in recruiting dentists with public health training. In response, over one-third (eight of 23) of the Canadian agencies reported such difficulties. As a result, 37 positions were either not filled to the satisfaction of the employer, or foreign dentists were recruited. Eleven (30 per cent) of these positions were left vacant, and 10 (27 per cent) were filled by dentists who did not have the formal training. Other agencies chose to develop proven staff by providing support for these staff to take the required training.

COMPARISON WITH PREVIOUS STUDY

The response to the needs of faculties of dentistry and the Armed Forces were collected in a different manner

from the 1977 survey; thus these cannot be compared to the 1981 results. However, Table IV gives the findings for the provinces and federal government in 1977 compared to 1981.

As can be seen, the observed 1981 government establishment for Canadian dentists with public health training (119 + 24 part-time) exceeded the 1977 establishment (83 + 6 P.T.) and the estimate for 1981 (99.4 + 6 P.T.). The difference occurs largely as the result of the Quebec data, where 31 additional positions were reported to have been created, and the lack of 1977 data for Newfoundland and Nova Scotia.

Complicating the picture is the increasing number of part-time positions in Ontario from four in 1977 to 19 in 1981. The 19 part-time positions in Ontario represent 8.6 full-time equivalents (FTE) and are filled by 14 different individuals.¹⁰ If these are added, the national total becomes nearly 128 FTE, a figure well in excess of the projections based on 1977 data. If data for Quebec, Newfoundland and Nova Scotia are subtracted from the 1981 estimated and establishment figures, the 1981 projection becomes 87.4 and 6 PT and the 1981 establishment becomes 86.6 FTE. Thus, the expected expansion of the Quebec positions between the two surveys compensated for the optimistic projections from other employers.

DISCUSSION

The number of established dental public health positions was found to be higher than expected from projections calculated from a 1977 survey. This excess in demand is mainly the result of the Quebec regionalization of health services. In general, the provinces serve as the largest employer of dentists with dental public health training. The Canadian Forces and universities have had the greatest success in obtaining dentists with specialty

TABLE IV

Government Positions for Public Health Dentists 1977 and 1981

Agency	Established positions 1977		Projected new positions over 10 years	Estimated establishment 1981*		Observed establishment 1981	
	F.T.	P.T.		F.T.	P.T.	F.T.	P.T.
Newfoundland**	—		—	—		3	
Prince Edward Island	1		1	1.4		1	
Nova Scotia**	—		—		—	0	2
New Brunswick	1		0	1		1	
Quebec	12		0	12		38	3
Ontario	25	4	7	27.8	4	22	19
Manitoba	8	1	4	9.6	1	7	1
Saskatchewan	3		20	11		6	
Alberta	4	1	5	6	1	11	
British Columbia	13		0	13		15	
Federal Services	16		4	17.6		15	
	83	6	41	99.4	6	119	24

F.T. = Full-time

P.T. = Part-time

*Established positions (1977) plus 40% of the projected 10-year increment.

**Did not respond to 1977 survey.

training, since approximately 75 percent of their establishment is so trained. The federal government has a lower percentage of trained staff; however, the specialty is not a formal requirement for any federal position.

Future needs are also reportedly high, with the survey revealing that 67 trained dentists will be required in each of the next two five-year periods. The provinces and the universities are anticipating an increase of 30 positions to their present complement over the ensuing 10 years. If this occurs, the number of positions, including part-time, in Canada will be 197.5 by 1991.

In addition to the 30 new positions, 104 dentists will need to be trained, mainly as replacements. The 104 represent 63 percent of the present 167.5 positions and this proportion indicates some degree of urgency in planning for the training of these people.

All of these needs are the subjective estimates of single

respondents made independently of one another. Therefore, these projections may be too optimistic, and expected funds to support new and even existing positions may not be available. However, the fact that projections based on the survey conducted in 1977 underestimated the number of Canadian positions actually found in 1981 gives some credibility to the estimates. Some confidence in the estimates must also be derived from the fact that the majority of training requirements will be for replacement of present incumbents where presumably the positions have both financial and political viability.

Table III points to the needs by geographic areas. The future need is most dramatic in the prairie provinces where a total of 43 trained dentists need to be recruited over the next 10 years. Quebec's French language requirements may well complicate its problem in attracting 33 trained people. The other regions of Canada appear

Continued on next page

to need numbers that are manageable, given the opportunity to plan this over the 10-year time period. The danger exists, however, that not all regions will plan for this upcoming lack of trained manpower, leaving the jurisdictions or agencies that do plan at risk of losing their trained staff to raiding efforts or to locations with more attractive living conditions.

The future difficulties will not be new to the employing agencies. Over 25 percent of the agencies have experienced problems in recruiting such staff over the past five years. Accommodations, of necessity, have been made by leaving positions vacant, filling them with dentists who lack the training or recruiting foreign dentists with the training. Some agencies are known to recruit untrained staff and support them with full or part salary while taking the training. Fifteen dentists are known to have specialty training in dental public health but are not using it in a position where it is usual or advantageous. Eight of these are in British Columbia.

Starting salaries in 1981 were seen to be less than the average earnings of private practitioners in 1979 and even with fringe benefits may be insufficient to attract and retain enough candidates. Some provinces might well have to examine this aspect if their targeted needs are to be met.

CONCLUSIONS

The present complement of positions ordinarily filled by dentists with training in dental public health is 167.5. This is estimated to increase to 197.5 by 1991.

The need for training Canadian dental public health specialists has been estimated at 134, over the next 10 years.

Major needs are going to occur in Quebec and the prairie provinces, with the other regions having more manageable requirements.

This specialty area has consistently lacked sufficient manpower, with eight of 23 employing agencies reporting difficulty in hiring trained staff over the past five years. These agencies have had to leave positions unfilled, fill positions with non-specialty trained dentists or recruit foreign dentists with the training.

Fifteen trained Canadian dentists are reported to be employed in positions that do not require that training. Revised salary levels, which better recognize both the relative earnings of private practitioners and the additional training requirements, may need to be established in some areas.

The Faculty of Dentistry, University of Toronto, and the employing agencies need to work out an appropriate strategy to meet these future needs.

This study was supported by the Ministry of Health of Ontario and the Faculty of Dentistry, University of Toronto. The author expresses appreciation to the members of the Dental Public Health Subcommittee, its consultants, J. McGhie and the 24 respondents.

Dr. Leake is associate professor and chairman, Department of Community Dentistry, Faculty of Dentistry, University of Toronto, 124 Edward St. Toronto, Ont. M5G 1G6.

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How to choose an Italian wine

Choosing an Italian wine can be a bewildering experience for there are so many different varieties. Italy is the world's largest winemaker and in 1981 produced some 70.5 million hectolitres of wine, 20.4 million of which were exported.

It's difficult to know exactly how many different wines are produced in Italy's twenty wine regions which range from the foothills in the north of the Alps, through the slopes of Vesuvius to the toe of Italy in the south, and the neighbouring islands.

At a conservative estimate there are probably somewhere between two to four thousand wines and just to make things even more complicated the wide variety of grapes grown in Italy are often known by different names in various regions.

Gone are the days when the general image of Italian wines came from rough Chiantis in straw covered bottles. Today, many outstanding wines are made in the 'land of sunshine' and an important factor in the up-grading of Italian wines has been the 1963 Law of DOC or Denominazione di Origine Controllato.

These regulations set out rigidly defined DOC zones. To obtain a DOC certification, a wine must be made from specified grape varieties grown within a delimited zone and processed and aged to specific standards. As well, it must meet quality and quantity controls in the vineyards with carefully supervised limits of production per hectare. Currently, there are some 200 DOC zones producing some 500 different DOC wines.

Label reading

Reading an Italian wine label isn't as complicated as it appears on first sight. The name of most Italian wines comes either from the area, such as Soave; the grape variety, such as

Trebbiano or, occasionally, from a historical site or story, such as Est! Est!! Est!!!.

When you couple a DOC wine with the name of a well-known Italian wine producer you can't go wrong and I propose to use the example of the Cantine Lungarotti at Torgiano in the Umbria region.

Umbria is an inland area with rolling green hills and fertile valleys. It's the home of olive oil, wonderful candies and a multitude of pasta products, as well as many wines.

Torgiano is one of the smallest DOC zones in Italy and one man alone, Dr. Giorgio Lungarotti through constant years of hard work, is responsible for the area obtaining its DOC certification.

He was the first winemaker in the area to transform mixed agriculture fields to fields of single vines and he and his family have a continuing passion for improving the standards of their wines.

The sleepy village of Torgiano takes its name from the centuries old Tower of Janus which still stands today. There's a main street with a row of stores that seem to sell anything you want and a couple of trattorias where you can have a glass of wine or a delicious ice cream.

Le Tre Vasselle hotel is located on a side street and it's owned by Dr. Lungarotti who converted three medieval homes into a modern hotel. The exterior remains the same as years ago but the interior is ultra modern, with a restaurant offering fine cuisine and a wine cellar to match.

Wine museum

Close to the hotel is the 'Museo del Vino'. Many wine museums tend to be dull but this one is different. It's delightfully organized by Dr. Lungarotti's wife and it's full of life. There are fascinating artifacts, including a

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Ten minutes' brisk walk takes you from the centre of Torgiano to the modern Cantine Lungarotti winery surrounded by some 350 acres of its own vineyards. The winery is equipped with the most modern facilities available and its wines have gained an international reputation.

Probably the two best known wines are Torgiano Rosso, known as Rubesco and Torgiano Bianco, called Torre di Giano and both have their DOC's.

Rubesco is #4194 and sells in Canada for around \$6.00. It's made from a blend of 70 per cent Sangiovese and 30 per cent Canaiolo grapes. The wine is colored ruby red and the bouquet is fruity and rich. To the taste the wine is dry, mellow and medium-bodied with a nice hint of blackberries. It's a fine red wine and will improve even more with a few years on your cellar shelf.

The companion white wine is **Torre di Giano** #49205 which sells for around \$5.50. It's made from a blend of 70 per cent Trebbiano and 30 per cent Grechetto grapes. The wine is the color of pale straw and it has an intense, refreshing and inviting bouquet. In the mouth it's clean, fresh and has the delightful fruitiness of the Trebbiano grape. It's a refreshing

Continued on next page

white wine that should be drunk as young as possible.

Dr. Lungarotti makes a number of other wines and is continually experimenting with new varieties. I spent a morning last Fall with his nephew and Export Manager, Baldo Lucaroni, tramping through the mud in some field where Cabernet Sauvignon grapes were being harvested and this famous French vine is growing sturdily in the fertile soil of the area.

It's people like Giorgio Lungarotti and other leading Italian wine producers who are creating such a good reputation for fine Italian wines today.

CELLAR NOTES:

- **Châteauneuf-du-Pape.** #42242. Price around \$11.50. This 'Appellation Châteauneuf-du-Pape Contrôlé' comes from the well-known House of Mommessin. It has a good deep garnet color and an excellent vinous bouquet. To the taste it's fruity, slightly off-dry, round and well balanced. It's a nice Rhône wine with its own honest character.
- **Green Gold Riesling.** #20495. \$7.10. This is a Qualitätswein classification wine from the Mosel blended by Kenderman. The grape is the Riesling and the wine is pale in color with a good fruit Riesling nose. It's pleasantly racy and fruity in the mouth with quite prominent acidity from the grape. A refreshing German white wine for quaffing.

FROM THE GRAPEVINE:

The wine: *Chateau Timberlay* '79. Details: #30072. Price around \$6.50. Comments: This Bordeaux Appellation comes from the House of Giraud and the Chateau is about 20 kms. to the north of Bordeaux. The blend is mainly Cabernet Sauvignon plus some Merlot. The wine has a pleasantly fruity nose and a good, clear ruby-claret color. To the taste it's medium-bodied, fruity with some tannin showing its youth. The Merlot comes through well in the after taste. A

- **'Let's Give an Italian Wine Tasting'** is an excellent 24 page booklet giving ideas both on tasting wine and also on how to organize a Wine Tasting evening. It includes suggestions of various combinations of different Italian wine groupings and offers some interesting recipes for Italian hors d'oeuvres to accompany the wines. For a free copy write: The Italian Wine Centre, Les Terrasses, 1801 McGill College Ave., Suite 750, Montreal, Quebec. H3A 2N4.

- **Wine lovers and Sherlock Holmes** addicts will welcome the news that Wayne Howell of Ottawa has discovered a manuscript purported to have been written by Dr. Watson while searching through boxes of his grandfather's books. For the first time, insight is given on the vast knowledge and uncanny ability possessed by the great detective to deduce both name and year of a specific wine. This further adventure of Sherlock Holmes reveals the mystery of a scandal in a London Men's Wine Club, 'The Bacchus'. The intriguing story is being presented as a nine-part serial in 'Wine Tidings Magazine' which commenced in March. The magazine is available at W.H. & Smith bookstores or you can send \$13.00 for an annual eight issue subscription to Wine Tidings, 5165 Sherbrooke St. West, Suite 414, Montreal, Quebec. H4A 1T6.



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Observe care in use of codeine, although tolerance and addiction are rare. Give codeine with caution to patients with severe respiratory depression. Its depressant effect may be enhanced by concurrent administration of sedatives and tranquilizers.

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1. Ancona, A. and others. *Mercury sensitivity in a dentist*. Contact Dermatitis, v.8, no. 3, May 1982, p. 218.
2. Bloch, P. and Shapiro, I.M. *An x-ray fluorescence technique to measure the mercury burden of dentists in vivo*. Medical Physics, v. 8, no. 3, May-June 1981, pp. 308-311.
Abstract: Mercury exposure in dental offices may represent a health hazard. Previous studies evaluated mercury exposure through blood, urine or hair analysis. The mercury content of body fluids in hair depends on the time since mercury exposure, mode of intake and its excretion, and sequestration by different tissues. Utilizing an x-ray fluorescence technique, the mercury burden in bone, liver, lung, spleen, and kidney was measured in vitro. The x-ray fluorescence, XRF, and chemical assays of the mercury content of these samples correlated. The XRF technique was used to assay the mercury content of tissues irradiated in vivo. It was found that the mercury signal arising at a depth in tissue was reduced as the thickness of overlying material increased. Thus, the XRF assay for tissues in vivo is confined to organs near the surface.
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Journal, v. 46, no. 7, August-September 1980, p. 420, & 422-424.

4. Brune, D. and others. *Exposure to mercury and silver during removal of amalgam restorations*. Scandinavian Journal of Dental Research, v. 88, no. 5, October 1980, pp. 460-463.

Abstract: The content of particulate matter and mercury vapor in dentists, breathing air during removal of amalgam restorations was assessed. Mercury and silver were quantitatively assayed by nuclear chemical analysis, and the mercury vapor concentration was measured with a sniffer. When the water spray was not used, the short time threshold limit values for exposure to mercury and silver were exceeded about 10 times. With water spray the mercury content was reduced to a level considerably lower than the threshold limit value, whereas the silver concentration slightly exceeded the corresponding limit.

5. Carrel, R. and others. *Trace metals in dental practitioners: a three-year study*. ASDC Journal of Dentistry for Children, v. 48, no. 3, May-June 1981, pp. 205-207.

Abstract: Concern regarding the hazard of mercury to the health of dentists has been widely expressed. Three groups of patients have been followed for three years to evaluate the effect of dental practice on mercury levels in the serum of dentists. At the

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beginning of the study and again three years later, only dental practitioners with at least 20 years of active practice had significantly higher levels of mercury in their sera. In no patient, however, was a serum mercury level higher than 5 $\mu\text{g/dl}$ obtained and this value is far below that which usually precipitates clinical symptoms of mercury toxicity. Thus, the occupational hazard of mercury to dentists may be overstated. Copper and zinc are also used in dental practice and the serum levels of these metals were investigated. None of the three groups had mean serum values that were beyond the normal ranges expected.

6. deFreitas, J.F. *Mercury in the dental work-place: an assessment of the health hazard and safeguards*. Australian Dental Journal, v. 26, no. 3, June 1981, pp. 156-161.
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8. Hosein, H.R. and others. *An evaluation of environmental and biological mercury levels in the Faculty of Dentistry, University of Toronto*. Ontario Dentist, v. 57, no.2, February 1980, pp. 7-10.
9. Kantor, M.L. and Woodcock, R.C. *Mercury vapor exposure in the dental office: does carpet-*
Continued on next page

ing make a difference? Journal of the American Dental Association, v. 103, no. 3, September 1981, pp. 402-407.

Abstract: Data from mercury vapor surveys of 1,064 rooms and offices show no difference in ambient breathing zone concentration of mercury vapor between offices with hard floors and offices with carpets. Laboratory experiments show that either type of floor can be successfully treated to practically eliminate its contribution to employee mercury exposures. The most effective approach to controlling mercury vapor exposures is to prevent contamination of the air and working environment through the disciplined practice of effective mercury hygiene. We believe the dental profession should stress an exposure limit of 0.02 mg/cu m or less as a standard of good practice.

10. Korwin, R. *Reducing mercury exposure in the dental office (letter)*. Journal of the American Dental Association, v. 104, no. 2, February 1982, pp. 138-140.
11. Koski, R.E. and others. *Controlling mercury vapor within the dental operatory*. California Dental Association Journal, v. 9, no. 6, June 1981, pp. 33-39.
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13. Roggenkamp, C.L. and Tune, T.E. *Relationship of mercury vapor levels in a dentist's clinic, shoes and home: a case report*. Journal of the Indiana Dental Association, v. 61, no. 2, March-April 1982, pp. 23-26.

14. Shapiro, I.M. and others. *Neurophysiological and neuropsychological function in mercury-exposed dentists*. Lancet, v. 1, no. 8282, May 22, 1982, pp. 1147-1150.

Abstract: In a study of the relation between cumulative exposure to mercury and chronic health impairment 298 dentists had their mercury levels measured by an X-ray fluorescence technique. Electrodiagnostic and neuropsychological findings in the dentists with more than 20 micrograms/g tissue mercury levels were compared with those of a control group consisting of dentists with no detectable mercury levels. Thirty per cent of the 23 high mercury dentists had polyneuropathies. No polyneuropathies were detected in the control group. The high mercury group had mild visuographic dysfunction; they also had more symptom-distress than did the control group. These findings suggest that the use of mercury as a restorative material is a health risk for dentists.

15. Svare, C.W. and others. *The ef-*

fect of dental amalgams on mercury levels in expired air. Journal of Dental Research, v. 60, no. 9, September 1981, pp. 1668-1671.

Abstract: The expired air of a group of 48 persons, 40 with and eight without dental amalgam restorations, was analyzed for its mercury content before and after chewing. Expired air samples were collected in polyethylene bags, and a known quantity of each was pumped into the mercury detector for measurement. The results showed that examined subjects with dental amalgams had higher pre-chewing mercury levels in their expired air than those without amalgams. After chewing, these levels were increased an average of 15.6-fold in the former and remained unchanged in the latter group. It was concluded that in situ dental amalgams can increase the level of mercury in expired air.

16. Warren, P.J. *The hazards from mercury in the dental surgery*. British Dental Surgery Assistant, v. 39, no. 5, September-October 1980, pp. 88-90.
17. Yamanaka, S. and others. *Exposure of Japanese dental workers to mercury*. Bulletin of Tokyo Dental College, v. 23, no. 1, February 1982, pp. 15-24.
18. Yrjanheikki, E. and others. *Exposure of dental personnel to mercury and noise*. Proceedings of the Finnish Dental Society, v. 76, no. 1, 1980, pp. 30-34.

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The following current acquisitions are available on loan from the Resource Centre/Library.

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3. DeFriese, Gordon H. *Assessing Dental Manpower Requirements*. Cambridge, Mass.: Ballinger, 1982. 157p. 1 copy.

TITRES EN BIBLIOTHÈQUE

Les titres indiqués ci-dessous sont maintenant disponibles au Centre de documentation de l'ADC.

4. "Linkages": *Dentistry's Role Within the Nation's Health Care System: 1st Annual National Conference on Dental Affairs*, Anaheim, California, April 21-23, 1980. 217p. 1 copy.
5. Medical Research Council Canada. *Reference List of Health Science Research in Canada*. Ottawa: the Council, 1982, 415p. 1 copy. Bilingual.
6. R.K. House & Associates. *Manpower Supply Forecast: 1981-2001: Technical Report*. 1982,

155p. 2 copies. 4 copies in French.

7. R.K. House & Associates. *Manpower Supply Study: Scenarios for the Future: Dental Manpower to 2001*. 1982. 40p. 30 copies. 1 copy in French.
8. Rakosi, Thomas. *An Atlas and Manual of Cephalometric Radiography*. London, Eng.: Wolfe Medical Publishers, 1982. 227p. 1 copy.
9. Sperber, Geoffrey H. *Craniofacial Embryology*. 3rd ed. Bristol: Wright, 1981. 204p. 1 copy.

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New Concepts in Operative Dentistry

Takao Fusayama

Quintessence Books
Chicago, Illinois
\$58.00, 180 pgs

After reading Professor Fusayama's text "New Concepts in Operative Dentistry", I came up with a more appropriate title: "Much Ado About Nothing"!

The material contained in the 180 pages of this book could be covered adequately in several lines of an Operative Dentistry text. Good quality color photomicrographs, intra and extraoral photographs, and numerous detailed charts, tables, and diagrams make for slick "silk-purse" packaging. The "sow's ear", however, shows up in the content.

The text is divided into three separate sections:

(A) Two layers of Carious dentin are identified visually, histopathologically, biochemically, and ultrastructurally in this section of the book. The outer layer is infected, soft, un-remineralizable, and should be removed. The inner layer is not quite as soft, uninfected, and is supposed to be left. If the colleague component of the organic matrix is intact — (as it seems to be in this layer) — it is considered to be re-mineralizable. Besides conserving dentin, the author cites another reason for removing only outer carious dentin. Apparently, inner carious dentin is innervated (albeit indirectly) while outer carious dentin is not. The author feels that cavity preparation can be done "painlessly" by removing only the outer carious dentin. I would not want to be the patient when unsupported tooth structure was removed or

during securing of a dry field. Since only one of the many clinical examples was performed under rubber dam I would think that obtaining a dry field would be a significant part of their operative efforts.

Fusayama solved the age-old question of differentiating inner and outer carious dentin by developing — you guessed it — "Caries Detector". This is merely a 1.0 per cent solution of Acid Red food dye in propylene glycol and can be used to stain the infected outer carious dentin while not staining the inner carious dentin. Since it is probably the bacteria which pick up the dye, and since the author recommends it as a plaque disclosing agent anyway — what is so special about it?

Now that we're armed with this diagnostic panacea we no longer have to rely on "inaccurate" methods of decay detection and removal, "better dead than red".

(B) After the red-stained outer carious dentin is removed we can fill the void with a new acid-etch/sealant/composite system partially developed by — right again — the author. It is claimed that the significant advantage of the system is the bonding agent which supposedly adheres to dentin as well as enamel. The filled bulk resin appears to be of the garden variety. Fusayama claims that the "Clearfil" resin (actually only the bonding agent) adheres strongly to etched and unetched enamel, dentin and carious dentin with values in excess of these demonstrated by three commonly used systems. It was also stated that the resin system irritated the pulp less than other resin systems, although neither comparative data nor competing brands were mentioned in this sweeping claim.

The text then illustrated 85 pages of clinical cases using the system in a wide variety of situa-

tions ranging from simple class III and V restorations to pin-retained composite cores and class II posterior fillings. Intra-oral photographs revealed that cavity preparations seemed minimal with little retention, unsupported tooth structure remaining, and an apparent disregard for moisture control. (Retention was claimed not to be necessary because of the adhesive nature of "Clearfil".) In only one case was the use of rubber dam evident. Placement and especially trimmings of the restoration was performed with an apparent lack of concern for the gingival tissues.

(C) Possibly one of the few redeeming qualities of this book was a not-so-innovative approach to sealing pits and fissures. Minimal fissure preparation and filling with amalgam is advocated for this problem. The technique (with specially designed condensers of course!) was also advocated for use in extending conventional class I and II amalgam restorations for "prevention".

The following were the only bits of information I found to be of any value in the text:

- 1) Any disclosing solution may be of value in detecting carious dentin.
- 2) Acid etchant in a viscous vehicle may aid in controlling its placement.
- 3) Fissure filling with amalgam may be indicated in certain circumstances.

Independent corroboration of a possibly more adhesive resin would be of interest. Apart from the above points I found the text to be of little value. I would not recommend its purchase to anyone.

This book was reviewed by Michael R. Roda, Associate Professor in Restorative Dentistry, Dalhousie University, Halifax.

Occlusal Morphology

E. V. Celanza

Quintessence Books
Chicago Illinois
110 pgs

This manual is intended to help students gain knowledge about occlusion and occlusal morphology. The author states that understanding three anatomical styles of occlusion: bilateral balance, group function, and anterior protection, adds "versatility to the armamentarium of the practitioner rather than a blind adherence to a concept which cannot be applicable to all conditions." This is certainly a fundamental block in building a philosophical foundation for practising dentistry.

A limited view of occlusion is concerned only with occlusal surfaces of the teeth, however, the scope of the text appears to suggest that the term occlusion is what is being defined. As such the term occlusion refers to functional, parafunctional and dysfunctional aspects of an integrated system of teeth, supportive structures, joints and neuromuscular components. Accordingly the brief descriptions of the interdependence of anterior and posterior determinants and their influence on the occlusal morphology of the teeth is mandatory.

The student utilizes the principles presented in the opening of the manual to subsequently wax and adjust occlusions in three concise exercises. After the various styles of occlusion are waxed there is some commentary on both the limitations of restoring a pre-existing occlusion as well as the ease and stability of reconstructing opposing quadrants of teeth. This certainly adds to the students arsenal of diagnosis when deciding on the proper restored occlusion.

As in all fields of endeavor semantics is a formidable problem. The terms; balancing, working, rotating and orbiting are descrip-

tive of condylar movement. I am inclined to concur with the author that the denotation of ipsilateral and contralateral terms, clarifies the confusion associated with condylar movement.

The illustrations are a good adjunct to the text and make for easy comprehension. The step by step waxing technique of various styles of occlusion is readily understood. In addition perhaps similar diagrams or overlays of the temporomandibular joints would help students visualize what happens to

the occlusal anatomy when the various determinants are altered.

Although the author states that the manual does not pretend to contain all the information on the subject of occlusal morphology I believe a bibliography would give the reader the opportunity to decide for himself as to the style and the concept of occlusion he would like to adapt.

This book was reviewed by Dr. Karl H. Lederman, BSc, DDS, MS, MRCI, a Toronto, Ont. prosthodontist.

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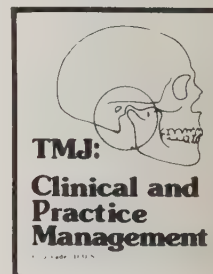
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Dental Amalgam

Vrijhoef, M.M.A.,
Vermeersch, A.G.,
Spanauf, A.J.

Quintessence Publishing Co., Inc.
Chicago, Illinois, 1980
113 pages

The authors assume that most dental practitioners realize that amalgam has its limitations and imperfections and is indeed less than an ideal restorative and therefore attempt to enable the clinicians to distinguish between the different iatrogenic factors determining success and failure of an amalgam restoration in the oral environment, i.e. cavity preparation, special precautions to keep the field of operation dry, the importance of the alloy choice, and ideal ratio of alloy and mercury, the mode of mixing, condensation, carving and polishing.

The composition and microstructure of the amalgam alloys and their corresponding amalgams are summarized but more important the authors emphasize the pertinence and significance of the various physical and mechanical properties, which so often are confusing, to the clinical function of amalgam restorations. Also, very practical guidelines as to alloy choice, proportioning of alloy and mercury, trituration, condensation, carving and polishing are presented.

This book is intended as a guide for every dentist, to enable him or her to assess which of the amalgam alloys meet his or her specific requirements.

Probably the most unique feature of this most practical work is that 28-30 most popular amalgam alloys mentioned in the book have been thoroughly investigated and tested by the authors both in the laboratory and in the clinic.

This book was reviewed by Leonard N. Johnson, Chairman, Division of Dental Materials Science, The University of Western Ontario.

Motrin® (ibuprofen) tablets

Product Information

Action: ibuprofen has demonstrated anti-inflammatory, analgesic and antipyretic activity in animal studies designed to specifically demonstrate these effects. Ibuprofen has no demonstrable glucocorticoid effect

Following a single 200 mg dose of ibuprofen in humans, useful blood levels were demonstrable in 45 minutes and still present in six hours but at barely detectable levels. Peak levels occurred at approximately one hour after ingestion. Levels were lower when taken in conjunction with food.

Ibuprofen is rapidly metabolized and eliminated in the urine. The excretion of ibuprofen is virtually complete 24 hours after the last dose. The serum half-life of ibuprofen is 1.8 to 2 hours. There is no evidence of drug accumulation or enzyme induction.

Ibuprofen has been found to be less likely to cause gastro-intestinal bleeding in doses usually used than is acetylsalicylic acid.

Clinical trials in man have shown activity of a dose of 1200-1800 mg of ibuprofen daily to be similar to that of 3-6 grams of acetylsalicylic acid daily.

Indications and Clinical Uses: Motrin (ibuprofen) is indicated for the treatment of rheumatoid arthritis and osteoarthritis. Motrin is also indicated for the relief of mild to moderate pain accompanied by inflammation in conditions such as musculo-skeletal trauma and post-dental extraction. Motrin is also indicated for the relief of pain associated with dysmenorrhea.

Contraindications: Motrin (ibuprofen) should not be used in patients who have previously exhibited hypersensitivity to it, or in individuals with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to acetylsalicylic acid or other nonsteroidal anti-inflammatory agents. (see WARNINGS)

Motrin should not be used during pregnancy, in nursing mothers or in pediatric patients because its safety under these conditions has not been established.

Warnings: Anaphylactoid reactions have occurred in patients with known A.S.A. hypersensitivity (see CONTRAINDICATIONS)

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported in patients receiving Motrin (ibuprofen). Peptic ulceration, perforation, or severe gastrointestinal bleeding can have a fatal outcome, and although few such reports have been received with Motrin, a cause and effect relationship has not been established. Motrin should be given under close supervision to patients with a history of upper gastro-intestinal tract disease.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in colour vision have been reported. If a patient develops such complaints while receiving Motrin (ibuprofen), the drug should be discontinued and the patient should have an ophthalmologic examination. Fluid retention and edema have been reported in association with Motrin; therefore, the drug should be used with caution in patients with a history of cardiac decompensation or renal disease.

Motrin, like other nonsteroidal anti-inflammatory agents, can inhibit platelet aggregation but the effect is quantitatively less and of shorter duration than that seen with acetylsalicylic acid. Motrin has been shown to prolong bleeding time (but within the normal range) in normal subjects. Because this prolonged bleeding effect may be exaggerated in patients with underlying hemostatic defects, Motrin should be used with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients on Motrin should be cautioned to report to their physicians signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

When Motrin is added to the treatment program of patients who have been on prolonged corticosteroid therapy, and it is decided to discontinue this therapy, the corticosteroid should be tapered slowly to avoid exacerbation of disease or adrenal insufficiency.

Aseptic meningitis has been reported in connection with Motrin therapy in patients with systemic lupus erythematosus. Such patients may also develop hypersensitivity reactions to Motrin such as fever, rash or abnormal liver function more often than those with other disorders. Caution should therefore be exercised when considering Motrin therapy for patients with systemic lupus erythematosus.

Drug Interactions

Coumarin-type anticoagulants: Several short-term controlled studies failed to show that Motrin significantly affected prothrombin times or a variety of other clotting factors when administered to individuals on coumarin-type anticoagulants. However, because bleeding has been reported when Motrin and other nonsteroidal anti-inflammatory agents have been administered to patients on coumarin-type anticoagulants, the physician should be cautious when administering Motrin to patients on anticoagulants.

A.S.A.: Animal studies show that A.S.A. given with nonsteroidal anti-inflammatory agents including Motrin yields a net decrease in anti-inflammatory activity with lowered blood levels of the non-A.S.A. drug. Single dose bioavailability studies in normal volunteers have failed to show an effect of A.S.A. on Motrin blood levels. Correlative clinical studies have not been done.

Adverse Reactions: The following adverse reactions have been noted in patients treated with Motrin (ibuprofen)

Note: Reactions listed below under Causal Relationship Unknown are those which occurred under circumstances where a causal relationship could not be established. However, in these rarely reported events, the possibility of a relationship to Motrin cannot be excluded.

Gastrointestinal: The adverse reactions most frequently seen with Motrin therapy involve the gastrointestinal system.

Incidence 3 to 9%: nausea, epigastric pain, heartburn

Incidence less than 1%: diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the gastrointestinal tract (bloating or flatulence)

Incidence less than 1%: gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, hepatitis jaundice, abnormal liver function (SGOT, serum bilirubin and alkaline phosphatase)

Central Nervous System

Incidence 3 to 9%: dizziness

Incidence 1 to 3%: headache, nervousness

Incidence less than 1%: depression, insomnia

Causal relationship unknown: paresthesias, hallucinations, dream abnormalities

Dermatologic

Incidence 3 to 9%: rash (including maculopapular type)

Incidence 1 to 3%: pruritus

Incidence less than 1%: vesiculobullous eruptions, urticaria, erythema multiforme

Causal relationship unknown: alopecia, Stevens-Johnson syndrome

Special Senses

Incidence 1 to 3%: tinnitus

Incidence less than 1%: amblyopia (blurred and/or diminished vision, scotomata and/or changes in colour vision). Any patient with eye complaints during Motrin therapy should have an ophthalmologic examination (see PRECAUTIONS)

Causal relationship unknown: conjunctivitis, diplopia, optic neuritis

Metabolic

Incidence 1 to 3%: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS)

Hematologic

Incidence less than 1%: leukopenia and decreases in hemoglobin and hematocrit

Causal relationship unknown: hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes (e.g. purpura, epistaxis, hematuria, menorrhagia)

Cardiovascular

Incidence less than 1%: congestive heart failure in patients with marginal cardiac function, elevated blood pressure

Causal relationship unknown: arrhythmias (sinus tachycardia, sinus bradycardia, palpitations)

Allergic

Incidence less than 1%: anaphylaxis (see CONTRAINDICATIONS)

Causal relationship unknown: fever, serum sickness, lupus erythematosus syndrome

Endocrine

Causal relationship unknown: gynecomastia, hypoglycemic reaction

Renal

Causal relationship unknown: decreased creatinine clearance, polyuria, azotemia

Symptoms and Treatment of Overdosage: A nineteen month old child weighing 12 kg ingested from 2800 to 4000 mg of Motrin (ibuprofen) and presented with apnea, cyanosis and responded only to painful stimuli. Oxygen and parenteral fluids were given and at 12 hours she appeared completely recovered. Two other children (10 kg each) ingested 1200 mg of Motrin each and there were no signs of acute intoxication or late sequelae. A 19 year old male who had ingested 8000 mg of Motrin reported dizziness, and nystagmus was noted. He recovered with no reported sequelae after parenteral hydration and three days' bed rest.

In cases of acute overdosage, the stomach should be emptied by vomiting or lavage, though little drug will likely be recovered if more than an hour has elapsed since ingestion. Because the drug is acidic and is excreted in the urine, it is theoretically beneficial to administer alkali and induce diuresis.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis. The initial daily dosage in adults is 1200 mg divided into 3 or 4 equal doses. Depending on the therapeutic response, the dose may be adjusted downward or upward. The daily dosage should not exceed 2400 mg.

Maintenance therapy, once maximum response is obtained, will range from 800 to 1200 mg per day.

Mild to moderate pain accompanied with inflammation, dysmenorrhea 400 mg repeated as required every 4 to 6 hours. The daily dosage should not exceed 2400 mg.

Children: Due to the lack of clinical experience, ibuprofen is not indicated for use in children under 12 years of age.

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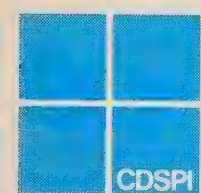
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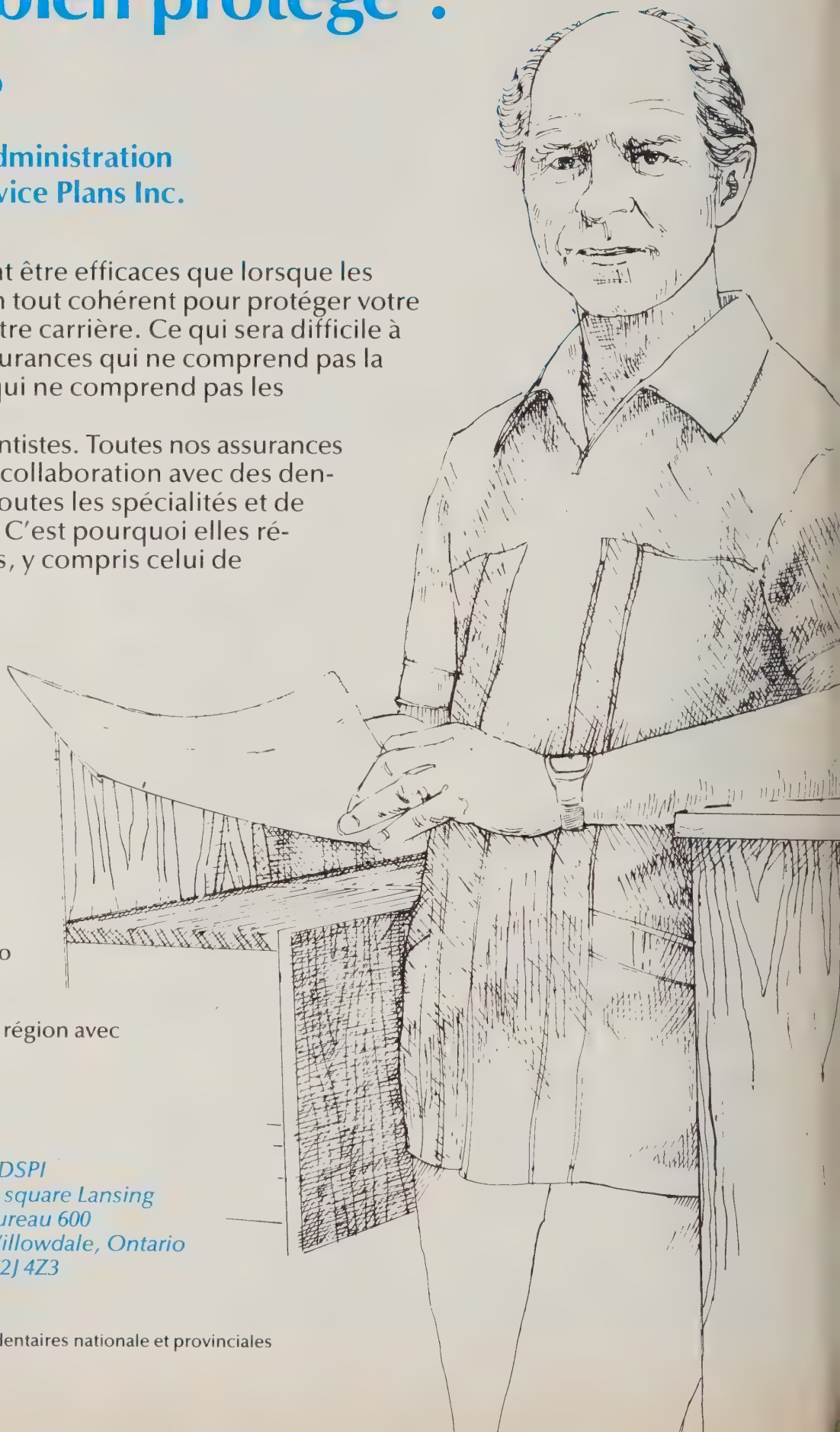
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La fluoruration: les statistiques pour chaque province

Une ratification officielle de l'Ontario a dernièrement incité le Journal de l'ADC a effectué un sondage sur l'état actuel de la fluoruration au Canada.

Dans une déclaration faite récemment, le ministre ontarien de la Santé, M. Larry Grossman, disait:

"Le 20 juin 1982 a marqué le trente-septième anniversaire de la fluoruration des eaux potables de Brantford afin d'améliorer la santé dentaire de ses citoyens. Maintenant, 72 pour cent des habitants de l'Ontario approvisionnés en eau par les services publics profitent des avantages de la fluoruration.

"Au cours des années, la fluoruration s'est révélée la mesure d'hygiène publique la plus efficace et la moins dispendieuse pour prévenir les caries. Des recherches scientifiques n'ont apporté aucune preuve valable pour soutenir que des problèmes de santé sont causés ou aggravés en consommant de l'eau fluorurée au taux optimal.

"C'est pourquoi, conformément aux recommandations de l'Association dentaire canadienne, je n'hésite aucunement à souligner l'importance de la fluoruration pour prévenir très tôt les caries et pour inciter les municipalités à adopter, si elles le peuvent, cette mesure comme moyen sûr, efficace et éprouvé de sauvegarder la santé publique."

Bien que les neuf autres provinces n'aient pas encore agréé officiellement la fluoruration, il n'en reste pas moins que de nombreux Canadiens continuent à profiter de cette mesure.

À commencer par les provinces de l'Ouest, le Journal a établi les statistiques suivantes: en Colombie-Britannique, 304 088 personnes consomment de l'eau fluorurée, ce qui comprend les citoyens des grands centres comme Courtney-Comox, Cranbrook, Kamloops, Kelowna, Prince George et

Prince Rupert ainsi que d'autres centres moins importants.

D'après les statistiques fournies par le ministère albertain des Services sociaux et de la Santé communautaire, 42 pour cent des habitants de l'Alberta consommaient de l'eau fluorurée en 1981, soit 919 298 Albertains sur 2 181 374.

Présentement, les plus grandes villes de l'Alberta dont les eaux potables sont fluorurées sont Edmonton, Lethbridge et Red Deer. Selon Suzanne Walker, consultante en médecine dentaire pour les Services de santé communautaire de l'Alberta, on prévoit que plus de villes de la province fluorureront leurs eaux cette année.

60 villes en Saskatchewan

En Saskatchewan, certaines villes fluoruraient leurs eaux dès 1953 et, en janvier 1982, on en comptait déjà 60. Presque 295 000 habitants de la Saskatchewan consomment de l'eau fluorurée. Ce sont entre autres ceux de Moose Jaw, Prince Albert, Saskatoon et Swift Current.

Au Manitoba, d'après les statistiques de mars 1982, 682 120 habitants consomment de l'eau fluorurée. Les principaux centres qui fluorurent leurs eaux comprennent Brandon, Winnipeg et Dauphin. Certaines villes ont reçu l'autorisation de fluorurer leurs eaux, mais ne l'ont pas encore fait. Ce sont Beauséjour, Churchill, Flin Flon, Morris, Rivers, Ste-Rose-du-Lac et Shoal Lake.

Aucune interdiction au Québec

La fluoruration au Québec n'est pas interdite et les déclarations faites en ce sens au cours des dernières années ne sont pas fondées.

Le Dr Benoît LaFontaine, consultant dentaire pour le ministère québécois des Affaires sociales, a fait remarquer que l'Assemblée nationale du

Québec a, en juin 1975, adopté le projet de loi 88 pour amender la Loi sur la protection de la santé publique. Cette loi visait à rendre la fluoruration obligatoire pour tout le Québec à la fin de l'année 1977.

Le ministre des Affaires sociales a été chargé de mettre cette loi en vigueur.

En août 1977, à la suite d'une opposition de la part du ministère de l'Environnement, le ministre des Affaires sociales a accepté qu'on suspende la mise en vigueur des articles 24 (c) et (d) de ladite loi. Ces parties s'appliquaient seulement à l'obligation de mettre la loi en vigueur. Cette suspension, a noté le Dr LaFontaine, ne constitue donc *PAS* un moratoire, mais laisse la fluoruration au choix de chaque municipalité.

Selon le Dr LaFontaine, le ministre croit que la fluoruration devrait constituer une mesure fondamentale de tous les programmes publics de santé dentaire. Pendant plusieurs années, celui-ci a subventionné les municipalités de manière à couvrir le coût total de l'achat et de l'installation des systèmes de fluoruration et même le coût du fluorure qu'elles consommaient.

D'après les statistiques actuelles, environ 735 000 Québécois profitent des avantages de la fluoruration, soit environ 13 pour cent de la population totale de la province.

Depuis le sondage effectué en 1976 par Santé et Bien-être social Canada, le nombre des villes qui fluorurent leurs eaux n'a pas augmenté dans les provinces maritimes, sauf à Terre-Neuve. D'après ce sondage, 20 843 habitants de l'Île-du-Prince-Édouard, soit 17,6 pour cent de la population, consomment de l'eau fluorurée.

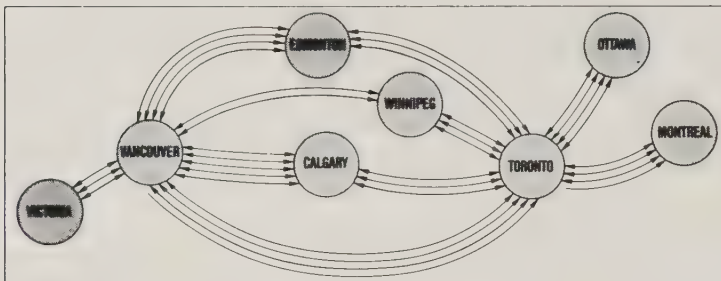
Et au Nouveau-Brunswick, ce pourcentage n'est que de 13,1 pour cent, ce qui représente 88 691 habitants.

Suite à la page 334

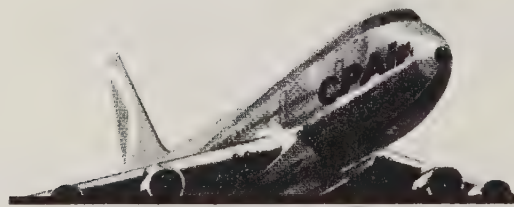


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La soirée du président, clou du programme social

Les organisateurs du Congrès de l'ADC ont voulu, pour l'événement majeur du programme social, la soirée de gala du président, mettre en valeur les beautés naturelles de Vancouver et de ses environs ainsi que les richesses culturelles des diverses ethnies qui y habitent. Cette soirée, on le sait, aura lieu le mardi 27 septembre, à l'hôtel *Vancouver*.

Le célèbre capitaine George Vancouver promet d'être du nombre et escortera les invités à la table d'honneur. De plus, serveurs et serveuses défileront avec les membres d'un or-

chestre de marins. Il y aura même quelques animaux et on nous assure que, non, ce ne seront pas des dentistes indésirables.

Avant le dîner, de jeunes musiciens, les *Suzuki Strings and Winds*, offriront un concert. À l'heure du cocktail et durant le dîner, un groupe de huit musiciens (cordes et vents) joueront une musique d'ambiance.

Le repas fera le plaisir des gourmets et chaque plat sera présenté par un groupe de jolie demoiselles dont les apparitions seront certes l'une des agréables surprises de la soirée.

Entre chaque plat, il y aura des présentations multiculturelles par les *Suzuki Senior Strings*, des joueurs de banjo, des danseurs chinois et quatre orchestres, y compris celui de la Police de Vancouver.

Après le dîner, de 21h30 à 0h30, le *Big Band Sound* fera les frais de la musique pour la joie des amateurs de danse.

La salle de bal sera ornée de peintures murales très pittoresques représentant la silhouette de Vancouver et l'orchestre sera installé sur un scène aménagée en kiosque forain.

Congrès des hygiénistes et des assistantes dentaires

Les congrès des Associations canadiennes des hygiénistes et des assistantes dentaires auront lieu à Vancouver du 25 au 28 septembre. En voici les programmes.

Le lundi 26 septembre, à l'hôtel *Four Seasons*, le Dr Robert J. Whitacre présentera, le matin, une conférence sur le contrôle de l'infection et, l'après-midi, à 14 heures, Heather Hagerman indiquera quoi faire pour garder les enfants motivés.

À l'hôtel *Georgia*, les congressistes de l'ACAD pourront, le matin, entendre un exposé du Dr Robert Myall sur la pathologie et, l'après-midi, assister à une séance animée par Claudia Anderson et Marjorie Dimitri dont le thème sera: "tout dépend de moi."

Le mardi 27 septembre, à 9 heures, Edita Whipple animera, à l'intention de l'ACHD, une séance sur la planification de la garde-robe et, à 10h45, Sue Hills parlera de la bonne condition physique avant et après un accouchement. À 14 heures, Bill Collett prononcera une conférence sur la radiologie et, à 15h30, Karin Sipko fera une mise à jour touchant les techniques de l'hygiène buccale.

Ce même jour, les assistantes pourront assister à une présentation de Jack Allen et Gary Little dont le titre sera: "Plus que la couleur des dents: un nouvel aperçu sur la manière de traiter les gens pour le professionnel dentaire qui veut connaître le succès." Les assistantes auront également l'oc-

casion d'assister à la conférence du Dr Collett sur la radiologie.

Le mercredi 28 septembre, à 9 heures, les Drs Ben Wong et Jock McKean s'adresseront aux hygiénistes et leur demanderont: "Tuons-nous ou soignons-nous les patients?" Cette conférence se poursuivra à 13 heures.

Entre-temps, à l'hôtel *Georgia*, Diana Cawood prononcera, pour les assistantes, une conférence sur la planification d'une carrière.

Programme social

Les congrès de l'ACHD, de l'ACAD et de l'ADC débiteront par la *Funn Runn* (course amusante) qui aura lieu au parc *Stanley*, à 8 heures, le dimanche 25 septembre.

Suite à la page suivante

Le Dr William Spence

Ancien président de l'ADC élu v.-p. du Collège international

Le Dr William Spence, de Toronto (Ontario), a été élu vice-président du Collège international des dentistes, lors de la réunion du conseil exécutif du collège qui a eu lieu le 5 novembre 1982.

C'était la première fois depuis 1966 qu'un Canadien se voyait décerner cet honneur et le Dr Spence est le quatrième dentiste du pays à occuper ce poste.

Le Dr Spence sera installé à la présidence du collège en 1984, lors de la réunion annuelle du Conseil exécutif qui aura lieu à Montréal, en même temps que le Congrès de l'Association dentaire canadienne.

En plus de pratiquer l'orthodontie



Le Dr Wm Spence

à Toronto, le Dr Spence a trouvé le temps d'occuper la présidence de l'Association dentaire canadienne en 1970

et, précédemment, celle de l'Association dentaire de l'Ontario.

Il a obtenu un fellowship du Collège international des dentistes en 1970, puis est devenu en 1977 registraire de la section canadienne, poste qu'il occupe toujours.

Pendant la Deuxième Guerre mondiale, le Dr Spence a servi son pays de 1941 à 1945, en tant que pilote de l'Aviation royale canadienne en Europe. Il était lieutenant d'aviation quand il a quitté le service.

Il a obtenu son diplôme en 1951 de la Faculté de médecine dentaire de l'Université de Toronto et a poursuivi ses études post-universitaires à l'Université Northwestern qui lui a décerné une maîtrise en dentisterie en 1953.

Les hygiénistes continué

À 16 heures, avant le dîner de bonne fortune offert par les hygiénistes de Vancouver, les hygiénistes pourront faire une croisière sur le *Britannia* dans le port de Vancouver.

De 20 heures à minuit, il y aura une soirée d'accueil pour les membres des trois associations. Conjoints et exposants seront les bienvenus.

Le lundi 26 septembre, le déjeuner de la présidente de l'ACHD aura lieu à midi à l'hôtel *Four Seasons*. Il y aura des prix de présence. Un dé-

jeuner est également prévu pour les assistantes.

À 17 heures, le même jour, il y aura une réception suivie d'un dîner "sans hôte" pour les trois associations. De plus, il y aura un marché d'art et d'artisanat.

À 19 heures, les hygiénistes pourront prendre part à une visite des meilleurs restaurants de la ville. En même temps, à la fois pour les hygiénistes et les assistantes, l'Association des anciens de l'Université de la Colombie-Britannique offrira un dîner.

Le lendemain, 27 septembre, de 19 heures à minuit, les hygiénistes et les assistantes pourront assister à "une soirée à l'Aquarium" où à 20 heures sera présenté le spectacle des baleines. Il y aura de la danse, un bar payant et un goûter.

Le mercredi 28 septembre, de 8h30 à 10 heures, les hygiénistes dentaires et leurs employées pourront assister à un déjeuner-causerie de caractère non officiel. Ce déjeuner clorera le programme social.

La fluoruration (continué)

40 pour cent de la population en Nouvelle-Écosse

En Nouvelle-Écosse, la situation paraît meilleure. Toujours d'après le sondage de 1976, 40 pour cent de la population totale, c'est-à-dire 332 155 habitants sont approvisionnés en eau fluorurée. Le Dr G.P. Jocys, consultant dentaire du ministère de la Santé de la Nouvelle-Écosse, a déclaré qu'on a relevé une seule augmentation à ce propos dans la région de Halifax-Sackville. Ce centre urbain a vu sa

population augmenter de 30 000 habitants depuis 1976.

"Personne à notre connaissance n'a interrompu la fluoruration en Nouvelle-Écosse," a ajouté le Dr Jocys.

À Terre-Neuve et au Labrador, le recensement de 1981 indique que 41 846 habitants sur 567 681 consomment de l'eau fluorurée. Les principaux centres qui ont adopté la fluoruration sont Cornerbrook, Goose Bay et Gander.



Gastown, Vancouver

En bref —

Très bientôt, l'Association dentaire de la Nouvelle-Écosse (ADNE) présentera au Comité spécial de la santé du gouvernement provincial un mémoire sur les questions de santé dentaire dans la province.

Présentement, ce comité, composé de membres de l'Assemblée législative et formé depuis six mois déjà, tient des audiences publiques à travers la Nouvelle-Écosse afin d'étudier tous les secteurs de la vie provinciale liés à la santé.

M. Don Pamenter, directeur administratif de l'ADNE, a déclaré que le comité accueille présentement mémoires, renseignements et recommandations que veulent lui soumettre les organismes de la santé touchant toutes les questions liées à ce domaine en Nouvelle-Écosse.

"Le comité n'a demandé à personne en dentisterie de lui présenter un mémoire, mais l'ADNE a l'intention d'en soumettre un," a observé M. Pamenter.

"Actuellement, l'ADNE n'a aucun sujet à traiter qui ne le soit déjà ailleurs, dans les ministères visés du gouvernement provincial. Cependant, si nous ne représentons pas les intérêts de la dentisterie en Nouvelle-Écosse auprès du comité," a-t-il conclu, "nous craignons de briller par notre absence."

♦♦♦♦♦♦♦♦

L'Ambulance Saint-Jean célèbre cette année son centième anniversaire de fondation.

Des célébrations sont prévues à travers tout le pays et atteindront leur point culminant en juin.

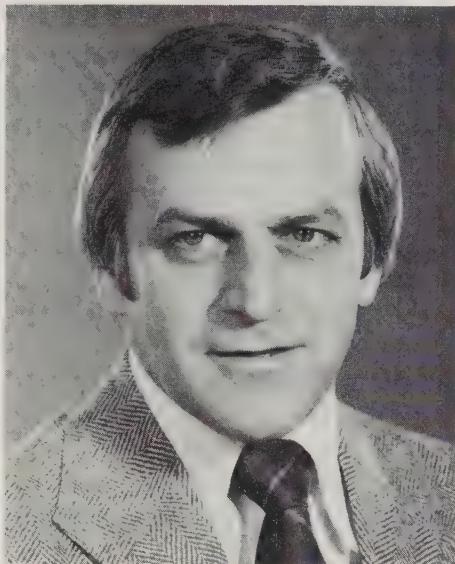
À Ottawa, le siège tiendra, du 3 au 5 juin, la première Compétition de secourisme et de soins de santé en milieu familial. Le Grand Prieur de l'Ambulance Saint-Jean, S.A.R. le Duc de Gloucester, sera alors à Ottawa pour prendre part aux festivités.

Du 13 au 16 juin, une conférence

internationale des Brigades de l'Ambulance Saint-Jean aura lieu à Toronto.

Et le 24 juin, fête de Saint Jean-Baptiste, les Postes émettront un timbre commémoratif et offriront un service de l'oblitération du premier jour pour souligner ce centième anniversaire.

♦♦♦♦♦♦♦♦



Le Dr Marcel Proulx

Le Dr Marcel Proulx a été nommé directeur de l'École de médecine dentaire de l'Université Laval (à Ste-Foy, Québec) pour un mandat de trois ans.

Diplômé de la Faculté dentaire de l'Université de Montréal en 1964, le Dr Proulx a poursuivi des études supérieures en parodontie à l'École supérieure de dentisterie de l'Université de Boston, de 1970 à 1972, obtenant un diplôme dans cette spécialité en 1972.

Praticien privé de 1964 à 1970, le Dr Proulx est attaché à l'École dentaire de l'Université Laval et y enseigne comme professeur adjoint.

Le Dr Proulx est fondateur et responsable de la Section de parodontie.

♦♦♦♦♦♦♦♦

Les chercheurs dentaires de l'Université de Western Ontario sont en train d'étudier des substances pouvant aider à la régénération des os qui se sont détériorés à cause d'une maladie parodontaire.

Le Dr James Stakiw qui est attaché

au Département de médecine buccale de la Faculté dentaire et ses collègues, les Drs Stan Kogon et J. Douglas Awde, éprouvent présentement l'efficacité d'une substance synthétique appelée *Periograf* et d'une préparation d'os humain décalcifié et séché à froid pour la régénération des os autour des dents.

"Chacune des substances semble agir comme une charpente sur laquelle l'os se régénère," a noté le Dr Stakiw.

L'équipe a reçu une subvention de 35 000\$ de la *Cooke-Waite Pharmaceutical Company* pour mener des recherches à long terme sur l'efficacité des deux substances mentionnées.

Environ 40 patients seront traités avec ces deux produits, puis surveillés durant une période de trois à cinq ans.

On sait que les maladies parodontaires sont la principale cause des pertes dentaires chez les adultes.

♦♦♦♦♦♦♦♦

Pour la première fois depuis 62 ans qu'il paraît, le *Journal of Dental Research* a un rédacteur en chef canadien.

Il s'agit du Dr Colin Dawes, professeur de biologie buccale à l'Université du Manitoba, qui a succédé au Dr Barnet Levy en mars dernier.

Diplômé en sciences et en médecine dentaire de l'Université de Manchester en 1958, le Dr Dawes détient également un doctorat de l'Université de Durham. Il a déjà enseigné à l'Université Harvard et, depuis 1965, est attaché à l'Université du Manitoba où il agit présentement comme directeur des études et des recherches dentaires au niveau supérieur.

♦♦♦♦♦♦♦♦

Cette année, les assistantes dentaires de la Saskatchewan célèbrent le 25^e anniversaire de la fondation de leur association.

En 1958, l'assemblée constituante de l'Association des gardes-malades et des assistantes dentaires de la Saskatchewan avait lieu à Regina. À cette assemblée, l'association a été juridiquement constituée et les membres l'ont agréée.

Durant ce quart de siècle, l'associa-

Suite à la page suivante

tion a fait beaucoup pour les gardes-malades et les assistantes dentaires de la province. Il y a eu des congrès chaque année, des bulletins publiés régulièrement et diverses études touchant l'assistance dentaire dans la province. De plus, elle a obtenu un droit de représentation et de vote auprès du Conseil d'administration du Collège des chirurgiens dentistes de la Saskatchewan.

En 1981, le nom de l'association a été modifié, devenant l'Association des assistantes dentaires de la Saskatchewan. Par la même occasion, on établissait un bureau et on nommait un adjoint administratif permanent.

Les célébrations du 25^e anniversaire ont eu lieu lors du Congrès dentaire de la Saskatchewan tenu à Prince Albert, du 18 au 30 avril. Toutes les anciennes présidentes de l'association se sont réunies pour un déjeuner en leur honneur.

♦♦♦♦♦♦♦♦

Le Dr John M. Dillon, de Winnipeg (Manitoba), vient d'être élu président de l'Association dentaire du Manitoba.

Diplômé de l'École dentaire de l'Université de Dublin (Irlande) en 1969, le Dr Dillon exerce sa profession à Winnipeg depuis 1973.

À l'Association dentaire du Manitoba, le Dr Dillon a travaillé comme membre du Comité de médiation et de révision professionnelle pendant trois ans et comme membre des comités du Mois de la santé dentaire, de la révision hospitalière et de la tierce partie. En 1982, il a agi comme secrétaire général pour la province du Manitoba. Il est membre du Conseil d'administration depuis deux ans.

Il succède au Dr Gene Solmundson, de Winnipeg également.

♦♦♦♦♦♦♦♦

Le Dr Jeff Osborn, membre de la Faculté dentaire de l'Université de l'Alberta et professeur de biologie buccale, s'est vu octroyer la bourse McCalla pour l'année universitaire 1983-1984.

Cette bourse permet à un professeur de prendre un congé sabbatique de neuf mois pour se consacrer à la

recherche à l'Université de l'Alberta.

Le Dr Osborn est le premier professeur de la Faculté dentaire à recevoir cette bourse qui constitue le prix le plus prestigieux accordé par l'Université de l'Alberta.

♦♦♦♦♦♦♦♦

L'Association américaine des hygiénistes dentaires (AAHD) est à préparer un programme d'assurance aptitudes pour les hygiénistes qui travaillent dans une clinique.

La première partie du programme aura trait à la production de matériaux de perfectionnement pour soi-même et la deuxième partie sera consacrée à l'établissement de normes pour l'exercice de la profession.

Un comité consultatif national composé de dix professionnels liés aux soins de santé et à l'assurance aptitudes aidera à mettre le programme au point.

La présidente de l'Association canadienne des hygiénistes dentaires (ACHD), Mme Linda Berry, a déclaré que l'AAHD dispose déjà d'un programme de matériel pédagogique et de renseignements que les hygiénistes peuvent se procurer aux États-Unis.

Au Canada, cependant, il serait "quasi impossible d'établir" un tel programme, d'observer Mme Berry.

"Nous avons dix lois provinciales différentes à considérer. Même la

définition de l'hygiène dentaire et des tâches de l'hygiéniste diffère d'une province à l'autre. Bien que nous ayons des programmes d'éducation permanente à l'intention des hygiénistes, il serait impossible en pratique d'établir un programme national."

Cette année, l'ACHD effectue un sondage pour déterminer les besoins des hygiénistes dentaires du Canada en éducation permanente, surtout des hygiénistes qui habitent les régions éloignées. Toutefois, de dire Mme Berry, il n'y a aucun projet pour l'établissement d'un programme national d'assurance aptitudes au Canada.

♦♦♦♦♦♦♦♦

Un dentiste entreprenant de Terre Haute (Indiana) a décidé de réclamer sa part de soleil.

Le Dr Byron Rutledge, fils, a fait construire le seul immeuble solaire de la ville et il y a établi son cabinet. Récemment, la Chambre de Commerce de l'endroit lui décernait un prix d'excellence pour la construction et l'aménagement paysager de son immeuble.

L'immeuble comprend neuf salles d'opération avec chacune une faitière. Au sous-sol sont aménagés un salon, un magasin, un laboratoire et une salle pour l'équipement solaire.

Selon le Dr Rutledge, les collecteurs d'énergie solaire fournissent la moitié de la chaleur requise pour chauffer l'immeuble.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 mars 1983.

<i>Fonds d'actions ordinaires</i>	\$66.9470
<i>Fonds à revenu fixe</i>	\$35.2139
<i>Fonds garanti</i>	\$25.7973
<i>Fonds de placement</i>	\$13.6961

L'avoir total (valeur marchande) du régime s'élevait à \$35,480,000.

Au 31 février 1983, les chiffres du mois précédent étaient les suivants:

<i>Fonds d'actions ordinaires</i>	\$65.4537
<i>Fonds à revenu fixe</i>	\$34.8183

<i>Fonds garanti</i>	\$25.5898
<i>équilibré</i>	\$13.4029

L'avoir total (valeur marchande) du régime s'élevait à \$35,324,279.

Pour de plus amples renseignements, veuillez écrire à l'adresse suivante: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3, ou appeler le service de renseignements du CDSPI en composant 1-800-268-5418 (appel sans frais pour l'Ouest canadien, les Maritimes et l'Ontario où le code est 807 seulement), 1-800-268-3411 (appel sans frais pour le Québec et l'Ontario sauf où le code est 807), et 497 7117 (Région métropolitaine de Toronto).

GUIDE À L'INTENTION DES COLLABORATEURS

Le Journal de l'Association dentaire canadienne invite tous ceux qui le désirent à lui soumettre, pour fins de publication, des articles inédits, des rapports cliniques ou des comptes rendus sur des ouvrages faisant état des progrès en dentisterie. Seuls sont acceptés les textes soumis exclusivement au Journal de l'ADC.

ARTICLES SCIENTIFIQUES: Ils ne doivent pas compter plus de 2,500 mots et s'accompagner du moins grand nombre possible d'illustrations, de photographies, de schémas, de tables et de graphiques. Le Journal considère qu'une vingtaine de références constituent une moyenne acceptable.

RAPPORTS MAJEURS: Plus longs que les articles scientifiques, ces rapports font état du diagnostic et du traitement des maladies dentaires, des études portant sur l'enseignement et sur les recherches effectuées en laboratoire ou en clinique, ainsi que des enquêtes détaillées touchant à la dentisterie ou à des sujets connexes.

RAPPORTS CLINIQUES: Plus brefs, ces rapports sont des histoires de cas ou des observations portant sur des cas cliniques. Pour ces textes, les références et le nombre des illustrations doivent être limités.

POINTS DE VUE: Les points de vue sont laissés à la discrétion du rédacteur en chef. De plus, ils ne doivent pas compter plus de 800 mots et être sérieusement documentés.

NOMBRE DE MOTS: On compte environ 250 mots par page de format 8½ x 11 et tapée à double interligne.

MANUSCRITS: Tout collaborateur doit soumettre trois (3) copies de son article (l'original et deux copies) au rédacteur en chef, Journal de l'Association dentaire canadienne, 1815, promenade Alta Vista, Ottawa, Ontario K1G 3Y6. De même, il doit soumettre graphiques, photographies, diagrammes et tables en trois exemplaires.

Chaque article doit être accompagné d'une lettre de présentation et d'un résumé. Les résumés seront traduits en anglais. Chaque manuscrit doit comporter une adresse postale complète pour fins de correspondance.

Le rédacteur en chef se réserve le droit de corriger les manuscrits pour les rendre clairs, brefs et conformes au style du Journal. Avant la publication de l'article, l'auteur correspondant recevra une copie du texte corrigé pour fins de vérification. Il recevra également les premières épreuves, mais il pourra y corriger seulement les fautes de vocabulaire et les erreurs typographiques. Tous les auteurs, sans exception, disposeront d'un délai de 24 heures pour retourner les épreuves.

Le Journal demande aux auteurs d'indiquer leurs titres professionnels ainsi que les postes qu'ils occupent et de joindre à leurs articles **des photographies d'eux-mêmes** pour la publication.

REMARQUE: Les manuscrits doivent être tapés à double interligne sur des feuilles de format 8½ x 11 et sur un seul côté des feuilles. On doit joindre un résumé à chaque article.

TITRES: Ils doivent être appropriés au contenu des articles, brefs et utiles pour l'index. Le rédacteur pourra abréger les titres trop longs.

LÉGENDES: Les légendes de toutes les illustrations doivent être présentées ensemble sur une feuille à part. Les légendes des photomicrographies doivent indiquer le grossissement et la couleur.

RÉFÉRENCES: Les références doivent se rapporter au texte et être numérotées en conséquence. Les références à des journaux ou à des revues doivent spécifier le nom de l'auteur, le titre de l'article, le nom du journal ou de la revue en abrégé, le numéro du volume, les numéros des première et dernière pages de l'article et l'année de publication:

- 1 Hechter, F.J. Symmetry and dental arch form of orthodontically treated patients. JCDA 44:173-184, 1978.

Pour les monographies, il faut indiquer le nom de l'auteur, le titre, le lieu de publication, le nom de l'éditeur et l'année de publication:

- 2 Kilpatrick, H.C. Work simplification in dentistry, 2^e éd. Philadelphia, Saunders, 1964.

ILLUSTRATIONS: Elles doivent être de bonne qualité et seuls les tables, schémas et diagrammes dessinés de façon professionnelle seront acceptés. Les diapositives ou les négatifs en couleurs seront rejetés de même que les radiographies sur pellicule. Les radiographies doivent être en noir et blanc et sur papier au fini glacé.

Il faut soumettre trois (3) jeux de photographies (en noir et blanc, fini glacé, 3" x 5") de dessins, de schémas ou de diagrammes. À l'aide d'un crayon gras SEULEMENT, il faut identifier chaque illustration en indiquant au verso le nom de l'auteur correspondant et le numéro de l'illustration. De plus, on doit mettre la mention 'top' à l'endroit approprié pour indiquer quelle est la partie supérieure de l'illustration.

Schémas et diagrammes complètent le texte et doivent être numérotés dans l'ordre où ils apparaissent dans le manuscrit. Les tables doivent être dactylographiées séparément avec leurs titres et leurs notes explicatives en bas de page.

Le Journal n'assume aucune responsabilité pour la reproduction des illustrations. Seuls sont considérés acceptables les graphiques, les schémas et les dessins qui peuvent être photographiés. Les tables numériques doivent être tapées clairement.

AUTORISATION: Il faut joindre les autorisations re-

(Guide à l'intention)

quises aux manuscrits. Une autorisation est obligatoire lorsqu'un patient apparaît sur une photographie, sauf si la figure est masquée et empêche toute identification. Des formulaires d'autorisation sont disponibles à l'Association dentaire canadienne, à Ottawa. Pareillement, il faut obtenir une autorisation de l'auteur et de l'éditeur lorsque, dans un article, on cite un texte ou reproduit des illustrations déjà publiés.

FRAIS: Il est déconseillé de soumettre des illustrations en quatre couleurs à cause des frais de reproduction qui croissent sans cesse. Cependant, les demandes pour les reproductions en quatre couleurs seront examinées individuellement. La plupart des articles sont publiés gratuitement, mais si un article exige un grand nombre d'illustrations, de tables et de photographies, il se peut que le Journal demande à l'auteur d'en assumer les frais.

TIRÉS À PART: Des tirés à part sont disponibles. Le

Journal en offre 25 gratuitement pour chaque article et les accompagne d'un bon de commande pour les tirés à part supplémentaires.

RÉVISION: Tous les articles scientifiques sont révisés par un comité consultatif choisi et anonyme. Le rapport de ce comité et des considérations propres à la publication du Journal constituent les critères sur lesquels le rédacteur en chef se fonde pour accepter ou refuser un article. Le rédacteur en chef se réserve le droit de modifier les manuscrits pour les rendre conformes au style du Journal.

NOTEZ BIEN: LES MANUSCRITS QUI NE RESPECTENT PAS CES DIRECTIVES SERONT RETOURNÉS À LEURS AUTEURS. VEUILLEZ DONC LES LIRE ATTENTIVEMENT.

Toute demande de publication doit être adressée au:
Rédacteur en chef, Journal de l'Association dentaire canadienne.

Photo de la couverture

Le Centenaire de fondation de l'Association dentaire du Manitoba nous est rappelé par cette illustration sur la couverture du Journal de ce mois-ci, photographie qui est un hommage rendu à l'Histoire de la Médecine Dentaire manitobaine.

La scène représente un cabinet dentaire des années "20" dans lequel on peut voir à l'oeuvre un dentiste fort connu du Manitoba, le Dr Harry Garvin. Celui-ci, honoré par sa province natale et le Canada tout entier grâce à ses contributions envers la dentisterie, fut entre autre chose le premier éditeur du Journal de l'ADC.

Le Journal désire remercier sincèrement M. Ross McIntyre, Secrétaire-trésorier de l'Association dentaire du Manitoba pour son aide précieuse dans l'arrangement de cette photo ainsi que le Musée manitobain de l'Homme et de la Nature pour avoir disposé tout meuble, équipement et accessoire qui ont contribué à la réussite de cette photographie.

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Factors involved in residual alveolar ridge atrophy of the mandible

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Alain Vinet, MSc

Montréal

Bone is a dynamic tissue whose exchanges with its environment are influenced by metabolic and functional stresses. A disturbance may manifest itself in the jaws, especially in the alveolar part which is susceptible to bone resorption and derives most of its growth from apposition at its free borders.¹ According to one study,² this trabecular bone, acting as a reservoir for minerals, has been shown to be primarily affected in mineral exchanges, even before the ribs, the vertebrae or long bones. It has been suggested that progressive loss of bone under dentures is a manifestation of osteoporosis,³ a chronic and disabling disease characterized by a tendency for bones to fracture and seen in an older age group. An earlier form with progressive skeletal demineralization is found in younger individuals, particularly in women after menopause. This form is hard to detect since 20-30 per cent of the calcium must be lost before it shows on x-rays.

Many local factors come into play when teeth are extracted and complete dentures inserted. The dynamics of forces applied to the crest and blood circulation are altered. It was found with arteriography⁴ that the central blood circulation is considerably reduced in the atrophic mandible and the external surface of the residual ridge becomes directly compressed by the denture. Ischemia of the mucoperiosteum may result from excessive masticatory forces or when patients are suffering from bruxism and keep their dentures in the mouth when sleeping.

It is the objective of this study to examine some of the systemic and local causes of residual ridge atrophy and to analyze their statistical significance.

MATERIALS AND METHODS

The population under study consists of 115 patients (98 women and 17 men), with a mean age of 47 and 48 years, respectively. All age categories were well repre-

Les os se composent d'un tissu dynamique dont les échanges avec l'environnement sont déterminés par les tensions métaboliques et fonctionnelles auxquelles ils sont soumis. Un désordre peut se manifester dans les mâchoires, surtout dans la partie des alvéoles qui est susceptible de résorption osseuse et qui doit sa croissance en grande partie au fait qu'elle est juxtaposée à ses bords libres. Une étude a démontré que cet os trabéculaire qui agit comme un réservoir de minéraux, est atteint avant tout autre dans les échanges de ces derniers éléments, même avant les côtes, les vertèbres ou les os longs. On a avancé comme hypothèse que la perte osseuse qui se produit progressivement sous les dentiers est une manifestation de l'ostéoporose, maladie chronique et invalidante qui se caractérise par une tendance des os à se briser et qui se rencontre chez les gens plus âgés. Chez des personnes plus jeunes, surtout chez les femmes après la ménopause, on trouve une forme hâtive de la maladie, laquelle se présente comme une déminéralisation progressive du squelette. Celle-ci est difficile à détecter parce que le calcium doit avoir baissé dans une proportion de 20 à 30 pour cent avant que cette perte ne puisse être décelée sur les radiographies.

Plusieurs facteurs locaux entrent en jeu quand les dents sont extraites et remplacées par un dentier complet. La dynamique des pressions appliquées aux arêtes et à la circulation sanguine est modifiée. L'artériographie a révélé que la circulation sanguine centrale est considérablement réduite dans une mandibule atrophiée; la surface externe de l'arête résiduelle est directement comprimée par le dentier. Des pressions masticatoires excessives ou le fait de garder son dentier durant le sommeil quand on est affligé du bruxisme, peuvent causer une ischémie de la fibro-muqueuse.

Le but de cet article est d'étudier quelques-unes des causes systémiques et locales de l'atrophie des crêtes résiduelles et d'analyser leur importance statistique.

sented in the female group — with the exception of the under 30 years group, which were placed in the under 40 group. The mean years of complete upper and lower denture wearing were 18 years for the females and 10 years for the males. Dentures were worn continuously day and night for 55 females and nine males. The control groups were equally composed of 50 non-edentulous female and male hospital personnel — with a mean age of 35 and 42 years, respectively.

Bone density: A commercial bone mineral analyzer (Norland-Cameron) was used to scan the shaft of the radius using I^{125} as a radioactive source. The arm is held securely in a postero-anterior position within a tissue-equivalent liquid bag. The site is measured directly at a level one-third along the length of the radius from the styloid process. The bone mineral content (BM) is expressed in grams per centimetre. To allow for the difference in size among individuals, BM is divided by the width of the radius to provide the ratio BM / BW (g/cm^2).

Severity of mandibular atrophy: Lateral cephalometry and planimetry are used to measure the severity of atrophy. The area of the mandible under study, named SL, is made up of the surface of the body extending 40 mm from point 0 — which is the projection of the pogonion on the mandibular plane (Fig. 1). The cases were divided into categories: severe, moderate or minimal atrophy, according to the SL values registered.⁵

Statistical analysis:⁶ The design is unbalanced, i.e. the distribution of patients between different age groups, sev-

erity of atrophy, years of denture wearing and denture-wearing habits, are unequal. For this reason, the means are adjusted through an analysis of variance. When the explanatory variable is divided into categories (day and night or day only), a chi-square analysis is used. When there are two discrete dependent variables (atrophy, age) and one continuous independent variable (density), a two-way analysis of variance (anova) is used in order to simultaneously evaluate the effect and to minimize the random fluctuation in the sample. When the analysis is carried further and there is a need to evaluate simultaneously three independent variables (density, years of denture wearing and denture habits) against two discrete dependent variables (atrophy, age), an analysis of covariance (ancoval) is utilized.

RESULTS

Bone density (Table I) — the mean bone density of the experimental groups is similar to that of the control groups. Nevertheless, a larger spread of density exists with both the female and male experimental groups.

Severity of atrophy (Table II) — the mean control female SL value of 1015 mm^2 is almost twice the mean experimental female value. These results indicate the extent of bone loss for denture-wearing patients, especially the females seen at the clinic for atrophy of the maxillae.

Bone density — age — severity of atrophy (Table III) — There is a very strong relationship between bone density and age for both females ($p < 0.001$) and males ($p < 0.01$). These findings are compatible with the general concept of

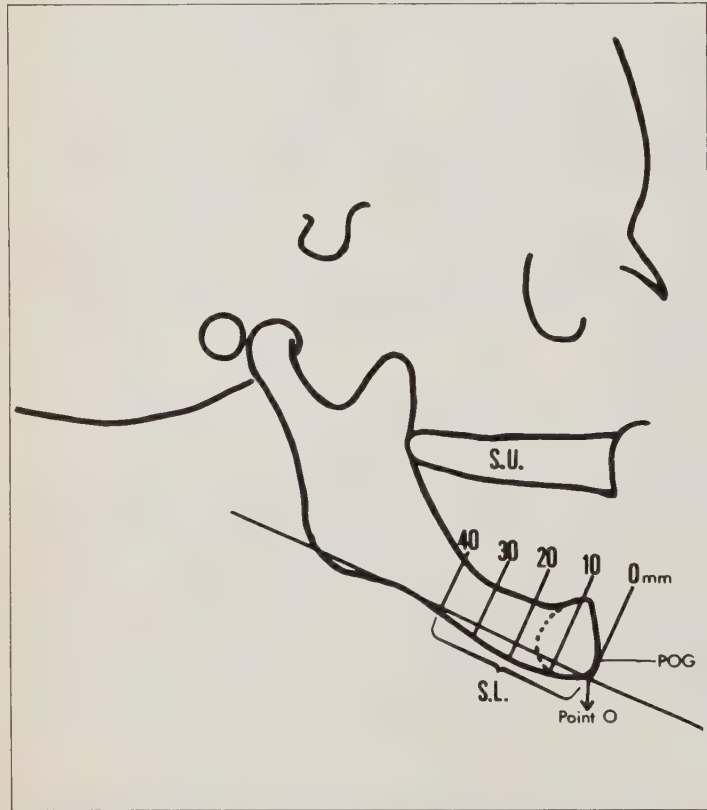


Fig. 1. Planimetric measurement of area S.L. on lateral cephalometry. S.U.: Surface upper, S.L.: Surface lower, POG: Pogonion.

Table I — Bone Density (g/cm^2)				
Women			Men	
	Exper.	Control	Exper.	Control
Mean	$.69 \pm .06$	$.69 \pm .05$	$.78 \pm .08$	$.79 \pm .03$
Range	.53 to .85	.57 to .75	.65 to .93	.68 to .86

Table II — Severity of Atrophy (mm^2)				
Women			Men	
	Exper.	Control	Exper.	Control
Mean	575 ± 108	1015 ± 88	761 ± 134	1168 ± 104
Range				
Severe	(n) 46	—	(n) 2	—
Moderate	37	—	6	—
Minimum	15	—	9	—
None	—	(n) 50	—	(n) 50

**Table III — Bone Density (g/cm²) —
Age — Severity of Atrophy**

	Severe	Mod.	Min.	Mean* (non adj.)	Mod.	Min.	Mean* (non adj.)
-40 y (n)	.69 (8)	.71 (17)	.76 (3)	.72	.77 (1)	.90 (3)	.83
-50 y (n)	.69 (17)	.74 (13)	.73 (5)	.72	.79 (2)	.82 (3)	.80
-60 y (n)	.69 (12)	.66 (4)	.69 (6)	.68	.77 (2)	.66 (2)	.71
+60 y (n)	.59 (9)	.61 (3)	.59 (1)	.60	.75 (3)	.72 (1)	.73
Mean* (non adj.)	.66	.68	.69	p < 0.001	.77	.79	p < 0.01
p = .13				p = .86			

*Means were adjusted with anova

aging. No relationship appears to exist between bone density and severity of atrophy (females, $p = 0.13$, males, $p = 0.86$). However, the female group under 40 years appears to behave differently and show some form of relationship: severe — 0.69 g/cm², moderate — 0.71 g/cm², minimal — 0.76 g/cm².

Further analysis was carried out at this point with the female group, whose number is much larger than the males and whose ages are better distributed. Since the effect of bone density is more apparent with the younger group, a time factor could be involved that masks the importance of density for the older groups who have been wearing dentures for longer periods of time. For this reason, it was decided to enter two time factors in the study that could be involved in the pressure resorption phenomenon: 1) the years of denture wearing, and 2) the habit of wearing dentures day and night.

Years of denture wearing — age — severity of atrophy (Table IV): A correlation exists ($p = 0.03$) between the years of denture wearing and the severity of atrophy. Thus the effect of time on bone resorption for denture wearers is shown to be statistically significant. No differences were noted in the years of denture wearing between the different age groups — for the simple reason that the groups, with the exception of the under 40 group who have been edentulous for a shorter period of time, have a similar period of denture wearing (19 years).

Denture wearing habits — severity of atrophy (Table V): The female patients are well distributed between those who have worn their dentures day and night (55) and during the day only (42). The significance of denture habits comes out strongly; those who wear dentures con-

tinuously resorb more. The chi-square test with two degrees of freedom provides a less than 2 percent chance of error ($p < 0.025$).

Bone density — severity of atrophy (Table VI): Since it was shown that the group under 40 years of age appeared to show a relationship between density and atrophy, further studies were carried out with the groups divided: those over 40 and those under 40 years. This division would clearly differentiate those who have not undergone

**Table IV — Years of Denture Wearing
— Age — Severity of Atrophy (Women)**

	Severe	Mod.	Min.	Mean* (non adj.)
-40 y (n)	18.0 (8)	14.4 (17)	10.0 (3)	14.1
-50 y (n)	19.2 (17)	20.5 (13)	17.2 (5)	19.3
-60 y (n)	24.0 (12)	16.3 (4)	16.5 (6)	18.9
+60 y (n)	25.9 (9)	7.3 (3)	13.0 (1)	16.7
Mean(nonadj.)	21.7	14.6	14.1	p = 0.27
p = 0.03				

*Means were adjusted with anova

**Table V — Denture Wearing Habits —
Severity of Atrophy (Women)**

	Severe	Mod.	Min.	Total
Day and Night (n)	29	23	3	55
Day only (n)	17	14	11	42
Chi-square = 8.298 D.F. = 2				p < 0.025

menopause. Tables IV and V also point out that the influence of bone density on atrophy could be masked by a non-homogenous contribution of the number of years of denture wearing and denture habits in the different groups of atrophy. The covariance analysis is a statistical test designed to help in this situation. Such a study, taking regression, the difference between the age groups (under or over 40 years of age), the years of denture wearing and denture habits, indicate the statistical significance of bone density as a cause of residual ridge atrophy ($p = 0.046$).

DISCUSSION

Methods of measurement

Direct photon absorptiometry has been found superior to x-ray spectrophotometry in detecting mineral loss,⁷ and is an accepted method for surveying the bones of large groups of the population. Since the correlation between local and total bone mass has also been shown,⁸ it is correct to assume that the results taken from the radius represent the density of the whole skeleton, including the jaws. The other types of measurements provided by planimetry of a defined area of the mandible are also reliable. This method has been found superior to measurements on panoramic x-rays, which create an unacceptable level of image distortion and error.

Statistical Analysis

In an earlier study⁹ of a similar population, the statistical treatment of the data was restricted to the analysis of the means and their variance with a student t-test. Bone density determined by absorptiometry was not found to be a statistically significant factor in ridge resorption. By using more elaborate statistical methods, we obtained different results. The significance of bone density in the complex phenomenon of bone resorption under dentures becomes clearer in the present study. This systemic factor is weaker in significance than the local factors of time and compression of the ridge by dentures; but it exists and leads to important questions on the epidemiology of residual ridge resorption — a serious problem in Quebec, where the population of denture wearers is one of the highest in the so-called affluent nations of the world.

**Table VI — Bone Density (g/cm²) —
Severity of Atrophy**

	Severe	Mod.	Min.	Mean (non adj.)
Density	.67	.70	.71	.69
Covariance Analysis (ancova)				
Age groups +, — 40 y	)			in regression
Duration of dentures	)			
	)			
Denture habits	)			
p = 0.046				

Epidemiology of Local and Systemic Factors of Residual Ridge Resorption of a Quebec Population

Nutrition Canada¹⁰ reported in 1972 that 33 per cent of Quebec women between the ages of 30 and 39 years were totally edentulous. More recently, it was reported¹¹ that partial edentulism was eight times more prevalent among 13 to 14-year-old Quebec children than in the Province of Ontario, and 16 times more frequent than in Baltimore, a fluoridated city in the United States. In 1980, a scientific survey¹² carried out by telephone, revealed that 14 per cent of 16 to 24-year old Quebecers interviewed were edentulous in one or both maxillae; 10 per cent more women were affected than men, and 44 per cent of the global sample were edentulous in one of both maxilla.

These surveys show the seriousness of the problem of tooth loss in Quebec, especially with regard to the epidemiology of residual ridge resorption. It affects a young population and more women than men. The present study indicates that the years of denture wearing associated with the harmful habit of wearing dentures continuously are the most endangering factors involved in the resorption of the residual ridge. Not only the patient but also the dentist must realize that when a full mouth extraction procedure is performed on a young person and the dentist does not provide basic instructions on the use of dentures, the patient has a less than five per cent chance of maintaining the integrity of the residual ridge. Present statistics support this assertion. As well as the local causes of atrophy, there are systemic factors that cannot be excluded.

Total dental extractions are more harmful to women, as the amount of bone present in the jaws before extraction is smaller than in men. Women are also at a disadvantage owing to endocrinological factors. Many case histories of women treated at the clinic for atrophy of the maxillae revealed that they had lost all of their teeth during or after pregnancy. Bone resorption has been shown in calcium-deficient lactating rats,¹³ and similarly in humans; a woman may undergo intense bone resorption of the residual ridge during pregnancy and lactation if she presents

deficiencies in her mineral exchanges. Women are also more susceptible to bone resorption, especially after menopause when their bones become more osteoporetic.

CONCLUSION

Women are particularly affected by the frequency and extent of mandibular bone resorption under dentures. Years of edentulousness, habits of wearing dentures continuously and density of bone were factors of statistical significance among the female group studied.

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Centric relation: Functional Anatomy

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Numerous contradictory concepts of centric relation exist¹⁻⁵. If centric relation is to be used as a maxillo-mandibular diagnostic and treatment position, clinically valid and reliable specifications must be identified. Analysis of the morphology and functional activity of the mandibular condyle — intra-articular tissue — articular fossa mechanism is fundamental to clarifying centric relation as a clinically relevant reference location. Determination of the functional matrix nature of the temporomandibular joint and associated structures requires integration of the principles of biomechanics and neuromuscular physiology with musculoskeletal anatomy.

OSSEOUS COMPONENTS

Biomechanical considerations

The inclined plane is a simple biomechanical machine. An object placed on an inclined plane seeks the location of equilibrium unless stabilized at some other position by an external force.

Il existe de nombreuses notions contradictoires touchant la relation centrique. Si celle-ci doit être utilisée comme un diagnostic maxillo-mandibulaire et une position de traitement, il faut définir des directives précises cliniquement valables et sûres. L'analyse de la morphologie et de la physiologie du condyle mandibulaire — le tissu intra-articulaire — le mécanisme de la cavité glénoïde — est essentielle pour préciser la relation centrique comme point de référence cliniquement approprié. La définition de la nature fonctionnelle de la matrice de l'articulation temporo-mandibulaire et des structures connexes exige une intégration des principes de la biomécanique et de la physiologie neuro-musculaires avec ceux de l'anatomie ostéo-musculaire.

The posterior slope of the articular eminence is an inclined plane which functions as a simple biomechanical machine. The major elevator muscles of the mandible, the masseters and medial pterygoids, exert a vertical force (F) positioning the mandibular condyle on the articular eminence which may be resolved to horizontal (f_H) and ver-

Continued on next page

*Professor and Chairman, Division of Fixed Prosthodontics

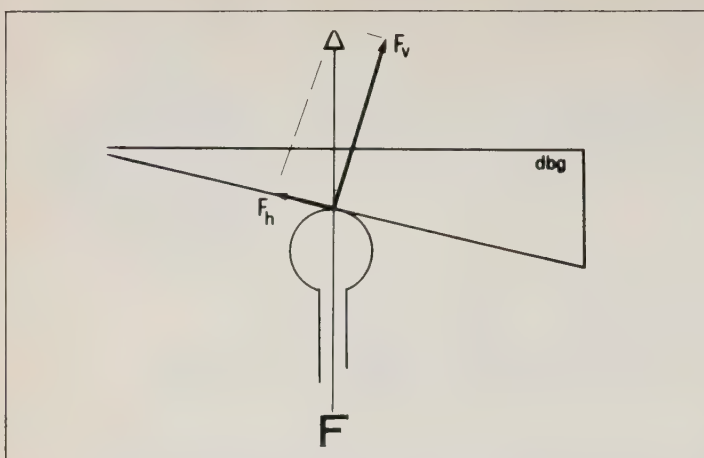


Fig. 1. Muscular forces (F) distributed to the mandibular condyle are resolved to horizontal (f_h) and vertical (f_v) vectors.

tical (f_v) vectors (Fig. 1). As a result, activity of these muscles propels the condyles superiorly and posteriorly along the articular eminence until the equilibrium location is achieved (Fig. 2).

Anatomical considerations

The cortical surfaces of the condyle-eminence articulation are covered with avascular fibrous tissue, indicating these structures are adaptive to compression and are pressure bearing⁶. The articular surface of the mandibular condyle is directed supero-anteriorly (Fig. 3). The articular fossa is bounded anteriorly by the articular eminence, a dense cancellous osseous structure buttressed by the zygoma, indicating that it is stress bearing.

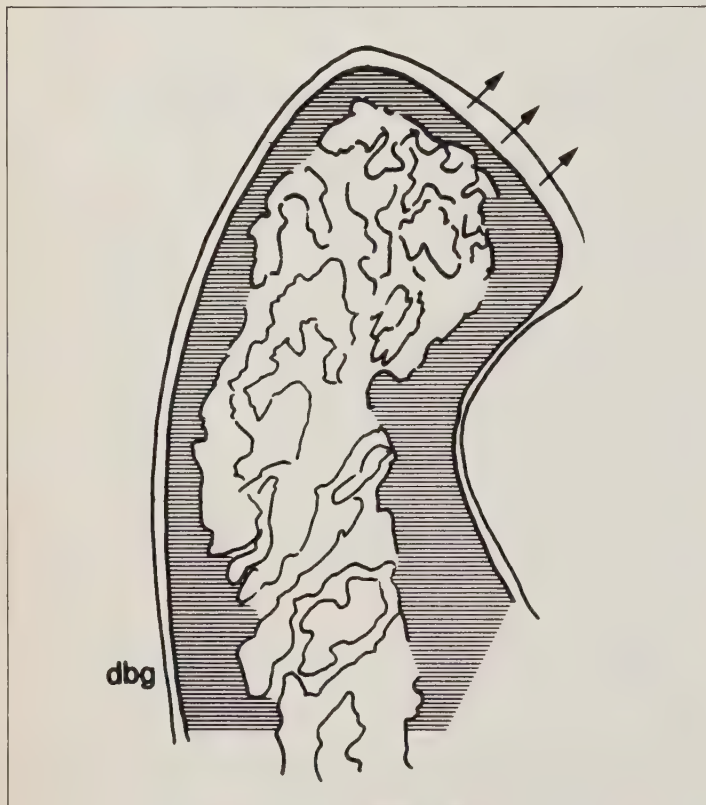


Fig. 3. The articular surface of the condyle is in a supero-anterior direction.

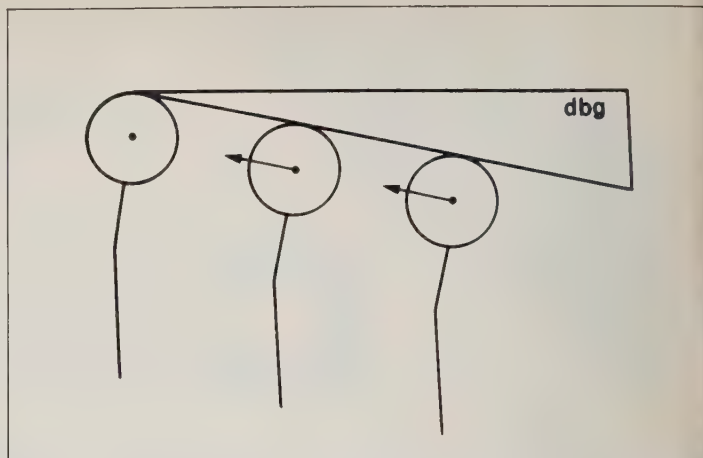


Fig. 2. The condyle travels superiorly and posteriorly along the eminence until the equilibrium location is achieved.

It is evident from an analysis of osseous morphology relationships that function of the condyle on the posterior slope of the articular eminence is in a supero-anterior direction. Centric relation as an anatomical and functional reference position is the equilibrium location of the condyle on the slope of the eminence. The equilibrium location is the *most supero-anterior position of the condyle on the articular eminence* (Fig. 4).

The vector of activity of the masseter and medial pterygoid muscles is supero-anteriorly. The supero-anterior orientation of the condylar articular surface consequently directs these muscular forces to the posterior slope of the eminence which is structurally capable of accepting such stresses.

SOFT TISSUE COMPONENTS

Biomechanical considerations

A simple biomechanical machine is the wedge. The wedge may be regarded as a pair of opposing inclined planes. If a wedge is placed between two lubricated surfaces, a force exerted by one surface on the wedge and resisted by the immovable opposing surface will displace the wedge to the location of equilibrium. This location is the termination of the inclined planes.

Anatomical considerations

The intra-articular tissue possesses three anatomically definable zones⁷⁻⁸, which often are collectively referred to as the "disc". The thinner central bearing area of the intra-articular tissue is composed of densely woven collagen fibrils. This arrangement, with its avascularity and lack of innervation, is structurally adapted to accept stress when positioned between the articular surface of the condyle and the articular slope. The central bearing area is bounded by thicker anterior and posterior bands (Fig. 5).

The three zones of the intra-articular tissue present two connected wedges which function as a simple biomechanical machine. The disc slides with little resistance in the articular fossa through the lubrication provided by synovial fluid. Contact by the condylar articular surface

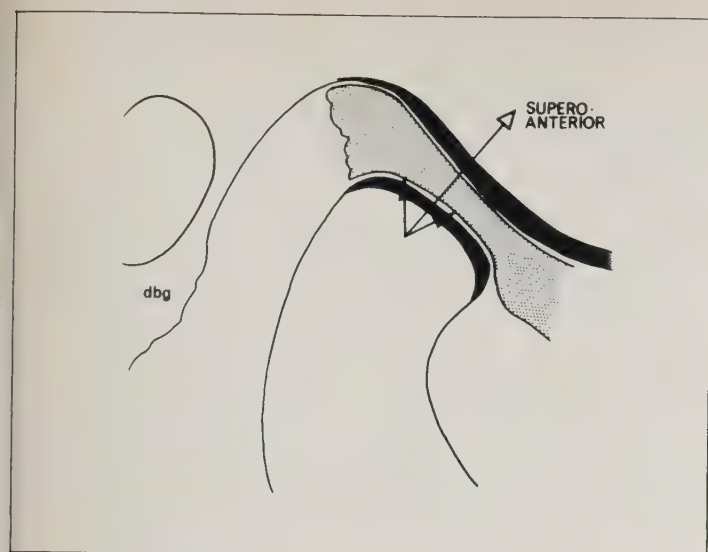


Fig. 4. Centric relation is the most supero-anterior position of the condyle in the articular fossa.

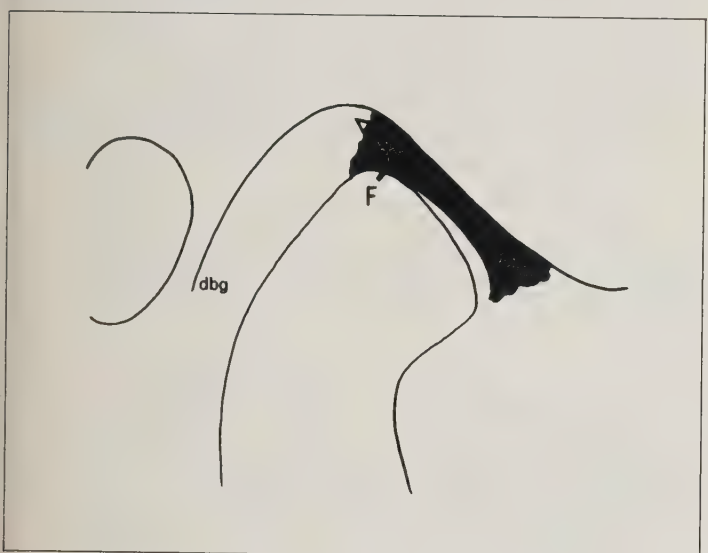


Figure 6. Contact of the condylar articular surface on the slope of either the anterior or posterior band tends to displace the disc to the location of equilibrium.

on the slope of either the anterior or posterior band tends to displace the wedge-like morphology of the disc to the location of equilibrium. This location is the central bearing area (Figs. 6, 7).

Stabilization of the condyle in the equilibrium location on the eminence slope is provided by the intra-articular tissue and capsular ligaments of the temporomandibular joint. The posterior limit of movement of the condyle against the eminence is due to wedging⁹ of the thickened posterior band of the disc between the condyle and the roof of the articular fossa (Fig. 8).

Centric relation as an anatomical and functional reference position is the equilibrium location of the condyle against the disc. The equilibrium location is the *central bearing area of the intra-articular tissue*.

DISCUSSION

Centric relation is a condyle-eminence intra-articular tissue relationship with anatomical, biomechanical, *Continued on next page*

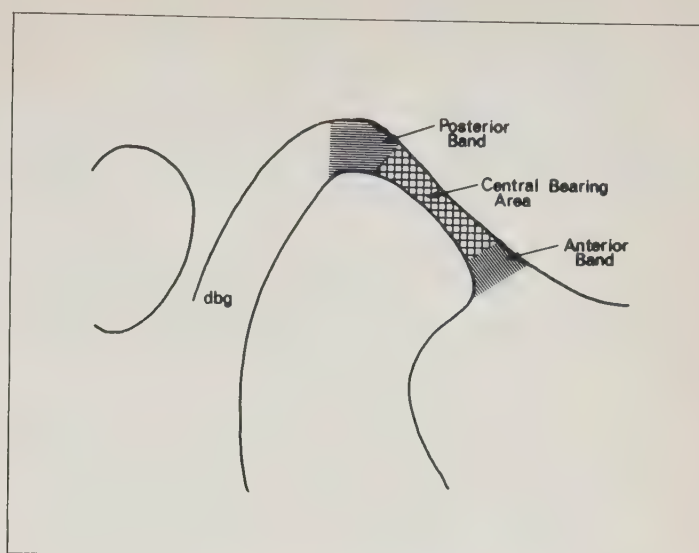


Fig. 5. Anatomical zones of the intra-articular tissue.

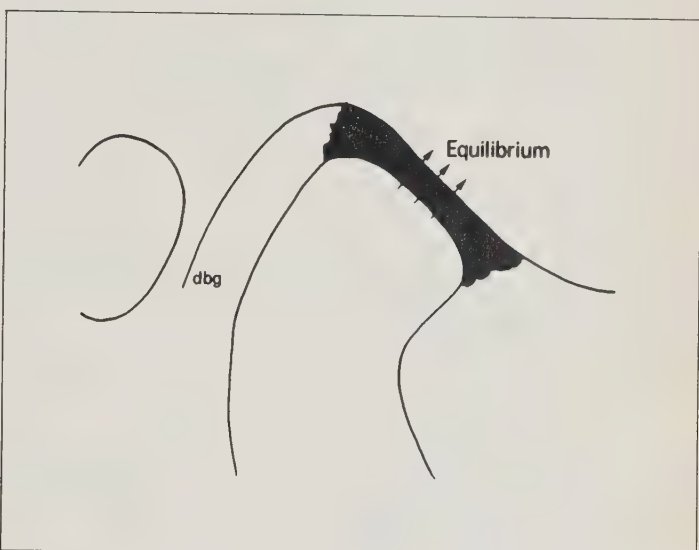


Figure 7. The location of equilibrium is the central bearing area of the intra-articular tissue.

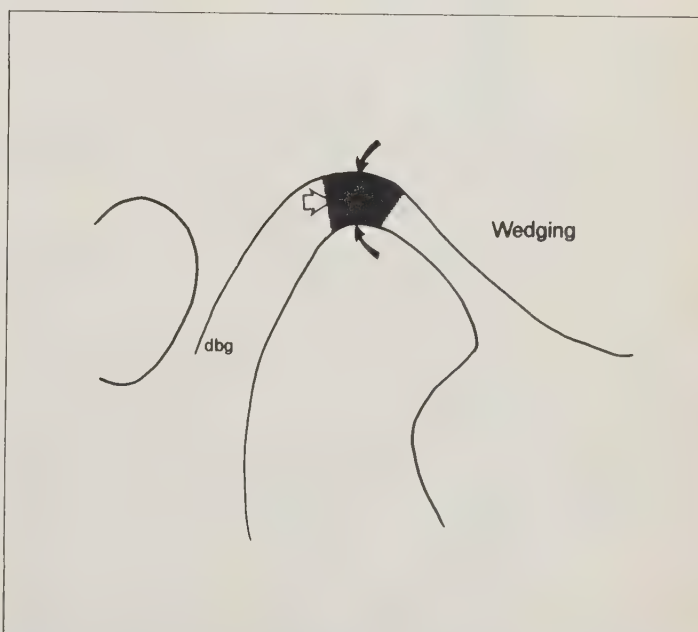


Figure 8. The posterior band limits movement of the condyle posteriorly on the articular eminence.

and physiological considerations. Morphological and functional analyses of the temporomandibular joint and associated structures demonstrate that stresses are directed supero-anteriorly. A location of equilibrium can be established, which is most appropriately defined as centric relation:

Centric relation is that location of the mandibular condyles when seated in the most supero-anterior position on the articular eminence with the central bearing area of the intra-articular tissue in opposition to the articular surface of the condyle.

Centric relation requires these specifications in order to be clinically significant as both a reference and a functional position for diagnosis and treatment. Subsequent articles in this series will present the clinical considerations for determining and verifying the centric relation position, treatment modalities for establishing centric relation in the patient with mandibular dysfunction, and the indications for utilizing centric relation as a treatment position in restorative and prosthetic procedures.

SUMMARY

Anatomical and functional analyses of the temporomandibular joint mechanism provide the basis for defining centric relation. The specifications identified

provide a condyle — articular eminence — intra-articular tissue relationship which is *functional* in addition to being reproducible as a reference position.

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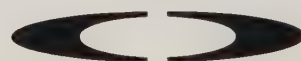
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Announcements

1983 CANADA

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Ontario Dental Association 116th Annual Spring Meeting, The Sheraton Centre, Toronto, Ontario, May 15-18, 1983. Contact: Mrs. W.C. Durham, 234 St. George Street, Toronto, Ontario M5R 2P1.

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The 1983 Annual Convention of Les Journées Dentaires du Québec, Montréal, Québec, May 28-June 1, 1983. Contact: Dr. Morton Lang, Executive Director, Les Journées Dentaires du Québec, 3565 rue Berri, Suite 200, Montréal, Québec H2L 4G3. Phone: (514) 842-9112.

June/juin

30th Annual Convention of the Canadian Association of Oral and Maxillofacial Surgeons, Vancouver, B.C. June 3-5 1983. Westin Bayshore Hotel. Keynote speaker is Dr. John M. Gregg. Contact the Canadian Association of Oral and Maxillofacial Surgeons, c/o Venue West Ltd. 1704, 1200 Alberni St. Vancouver B.C. Telephone 604-681-5226.

The Canadian Association of Oral and Maxillofacial Surgeons Meeting, Vancouver, British Columbia, June 3-6, 1983. Contact: Dr. Brian M. Abrams, Secretary, Canadian Association of Oral & Maxillofacial Surgeons, 410 - 11012 MacLeod St.S., Calgary, Alta. T2J 6A5.

The 7th Annual Meeting of the Canadian Health Libraries Association, Winnipeg, Manitoba, June 13-15, 1983. Contact: Marilyn Hernandez, Conference Co-ordinator, Department of Health Library, 220-880 Portage Avenue, Winnipeg, Manitoba R3G 0P1; (204) 786-5867.

July/juillet

The 5th Canadian Congress of Dentistry for Children, Four Seasons Hotel, Calgary, Alberta, July 1-3, 1983. 5th Canadian Congress, 2nd floor, Bow Valley Square II, 205 — 5th Avenue S.W., Calgary, Alta. T2P 2V7.

"ADG-Toronto: A New Leaf on Learning", the 1983 Table Clinics program presented by the Academy of General Dentistry, Sheraton Centre, Toronto, Ontario, July 16-20, 1983. Contact: Department of Meeting Planning, AGD, Suite 1200, 211 E. Chicago Avenue, Chicago, Illinois 60611; (312) 440-4300.

September/septembre

The Ernest C. Manning Awards Foundation will present its second annual award to an innovative Canadian in September 1983. The award of \$75,000 is presented to a Canadian doing innovative research

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Meeting of the Canadian Academy of Prosthodontics, Vancouver, B.C., September 22-24, 1983. Contact: Dr. B.M. Jackson, 22 Water Street S., Kitchener, Ontario N2G 4K4.

The Association of Prosthodontists of Canada, Annual Meeting, September 24-25, in Vancouver, B.C. Program Chairman: Dr. D. Donaldson, Faculty of Dentistry, University of British Columbia.

First International Symposium on: "Today's Research, Tomorrow's Health Care Delivery." At Faculty of Dentistry, Dalhousie University, Halifax, N.S. September 30 — October 1. Contact: International Symposium, Anniversary 75, Continuing Education Office, Faculty of Dentistry, Dalhousie University, Halifax, N.S. B3H 3J5. Telephone (902) 424-2248 or 424-6507.

The Royal College of Dentists of Canada Symposium on Periodontal Diseases, generously supported by Colgate-Palmolive Canada, as part of the Canadian Dental Association's National Convention, Vancouver, B.C., Monday, September 26, 1983. The keynote speaker for the Symposium will be Dr. Harald Loe, newly appointed Director of the National Institute of Dental Research, Bethesda, Maryland, and presently Dean of the School of Dental Medicine at The University of Connecticut.

CDA

Canadian Dental Association, 1983 National Convention, Vancouver, British Columbia, September 25-28, 1983.

Canadian Dental Association, 1984 National Convention, Montreal, Quebec, April 8-12, 1984. Contact: Dr. Morton Lang, O.D.Q., 3565 Berri St., Suite 200, Montreal, Que. H2L 4G3. Phone: (514) 842-9112.

Canadian Dental Association, 1985 National Convention, Ottawa, Ontario, September 29-October 2, 1985.

October/octobre

The Canadian Academy of Endodontics is holding its annual general meeting Winnipeg Manitoba, October 14-16, 1983. Contact: Dr. W. H. Christie, 233 Kennedy St. Suite 506, Winnipeg Man. R3C 3J5.

November/novembre

The 25th Anniversary Symposium entitled "Will Basic Research Influence Clinical Dentistry in the Future?", Faculty of Dentistry, University of Manitoba, Winnipeg, Manitoba. November 18-19 1983. Contact Dean, Dr. A. Schwartz, Faculty of Dentistry, University of Manitoba, 780 Bannatyne Ave., Room D-113, Winnipeg, Man. R3E 0W3. Phone 204-786-3631.

Toronto Academy of Dentistry Annual Winter Clinic, Royal York Hotel, Toronto Ont. November 24, 1983. Contact: Academy of Dentistry, 234 St George St. Toronto Ont. M5R 2P2, Telephone 416-967-5649.

International

June/juin

The International Congress of Oral Implantologists and the Southern Academy of Implant Dentistry present their Thirteenth Annual Implant seminar. Atlanta Georgia, June 3-5 1983. Contact either: Dr Maurice J. Fagan III, Program Chairman, the Southern Academy of Implant Dentistry, 960 Johnson Ferry Rd. Suite 440, Atlanta Georgia, 30342, (404) 255-5006 or Mr. Clifford J. Kirschner, Executive Director, The International Congress of Oral Implantologists, P.O. Box 2277 Grand Central Station, New York, New York 10163, 201-783-6300.

The next meeting of the American Dental Society of Europe will be held at the St. Pierre Park Hotel, Guernsey from June 28 to July 1, 1983. All enquiries should be made to: Brian J. Parkins, Hon. Secretary, 57 Portland Place, London WIN 3AH England.

The 1983 Annual and Scientific Meeting of the British Dental Association, Stratford-upon-Avon, Great Britain, June 30 to July 3, 1983. For further information contact: British Dental Association, 64 Wimpole Street, London W1M 8AL.

July/juillet

6th Dentistry International Congress, Rio de Janeiro, Brazil, July 16-21, 1983. For further information contact: A.B.O. — Rio de Janeiro, Ave. 13 de Maio — S/1001/6, CEP. 20.031, Rio de Janeiro, RJ, Brazil.

September/septembre

The 4th Congreso Internacional de Ortodoncia, Buenos Aires, Argentina, Sep-

tember 16-21, 1983. Plaza Hotel. Contact Sociedad Argentina de Orthodoncia, Montevideo, 971 (1019) Buenos Aires, Argentina.

October/octobre

The First South African Endodontic Congress, Johannesburg, South Africa, October 2-7, 1983. Post Congress tours are also available. Contact either: Westpoint Travels Ltd, 11 Biccard St. (Corner Smit St.) Braamfontain, 2001, South Africa. or South African Tourist Corporation, 20 Eglinton West, Toronto, Ont. Phone: 416-482-7077.

Seventh Annual American Dental Association Conference on Foods, Nutrition and Dental Health. Chicago, Illinois, October 27, 28 at Harold Hillenbrand Auditorium, 211 East Chicago Ave. Abstracts of research findings related to food cariogenicity and technology may be submitted for oral or poster presentation. Contact Joan C. Sayers, Staff Coordinator, FNDH Program Research Institute, ADA Health Foundation at the above address, in Chicago, Ill. 60611, or telephone (312) 440-2530.

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Astra	
Pharmaceuticals	299
CDSPi	308,330
CP Air	302,332
Colgate Palmolive Inc.	291
Conference Travel	348
Cooper	
Laboratories Ltd.	OBC
Defense National	310
Den-Mat	285
Dept. of National Defence	310
Dent-Appeal Enterprises	320
Merck-Frosst	292,293,300,301,322
C.V. Mosby Co.	326
Peer Review	
Seminars	344
Pennwalt	
Corporation	IBC
Procter and Gamble Inc.	286
Rhône-Poulenc	
Pharma Inc.	307,314
University of British Columbia	343
Upjohn Co. of Canada	IFC, 329
Vadare Publishing	328
Wright Dental	294

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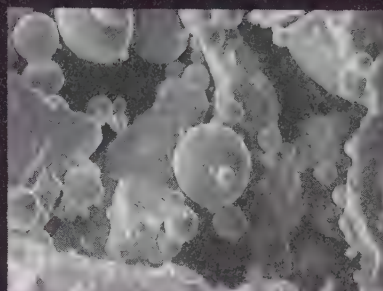
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1. JADA Oct. 1982, pages 636-640.

2. No Gamma II could be detected by either anodic polarization tests or microprobe evaluation conducted at a leading university.

3. U.S. Patent No. 4,255,192 to Pennwalt Corporation.

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*Rondeau PL, Yeung E, Nelson P: Ibuprofen (Motrin) – An Effective Analgesic in Dental Surgery Pain, J Can Dent Assoc 1980

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Editorial

- 357 Dr. Marvin Klotz discusses the dental manpower question from yet another angle.

Letters

- 363 Dr. Hugh MacKay feels students who want to come here from abroad should be encouraged rather than prohibited.

Dr. J. V. Cambruzzi feels that if a food and travel section is added to the Journal, along with the wine column, he'll cancel his subscription to *Gourmet* magazine.

In the News

- 363 **Cover Photo**
This month's cover photo, courtesy of the Canadian Government Office of Tourism, shows Jasper Park Lodge, headquarters of the Western Canada Dental Society/Alberta Dental Association's Conjoint Convention, being held in Jasper Alberta, June 12-15.

- 365 **Survey of dental manpower needs is now underway in Atlantic Provinces**
Surveys will be conducted every two years until enough data about current manpower trends and needs is gathered.

- 366 **Canadian endorsement of American Academy of Periodontology's view of prevention and treatment of gum diseases**
The American Academy of Periodontology has adopted a position statement on this subject, which has also been endorsed by the Canadian Academy of Periodontology.

- 371 **CDA Teaching Conference is being held for the first time in conjunction with the CDA Convention**
The CDA Teaching Conference will be held in Vancouver Sept. 27-28 in conjunction with the CDA Convention there.

- 371 **Pre and Post Convention Tours**
A variety of interesting tours have been arranged to Western destinations before and after the CDA Convention.

- 374 **Dr. Frank Lott, Organizer of Canadian Dental Corps passes in California**
Dr. Frank Lott, a native of Uxbridge Ont., who was directly responsible for the organization of the Canadian Dental Corps, died in California a few months ago.

Briefly

- 375 Dental news items from across Canada and around the world, are highlighted.

- 378 **Report: Survey of Mercury Vapour in Dental Offices in Atlantic Canada**
Dr. Derek Jones, Dr. Elliot Sutow and Mr. Edward Milne report on their research into mercury vapour in dental offices in the Maritimes.

- 396 **Executive Director's Report**
Hubert Drouin, CDA's Executive Director, reports on the Interim Board of Governor's meeting.

CDA Resource Centre

- 405 The CDA Library/Resource Centre lists articles available on the subject of Emergencies in the Dental Office. Also included is a list of new acquisitions.

Publications

- 407 **Oral Histology — Development, Structure and Function**
"Richard Ten Cate has tried many novel ideas, and has excelled on several fronts in this book."
— Rovinda M. Shah

- 408 **Marketing for the Dental Practice**
"I commend this book as an undergrad reference source in practice management projects."
— W. Walker Shortill, BSc, DDS

- 408 **Elements of Pharmacology: A Primer on Drug Action**
"The book... contains the essential general information for the biological scientist as well as the dentist and physician whose knowledge of pharmacology has become obsolete."
— B. G. Benfey, MD
H. S. Katz, DDS, DLD

- 417 **Dental Care for Cancer Patients** — W.T. MacGaw et al

- 425 **Peripheral Odontogenic Fibroma** — Fred Pockrass et al

- 406 RRSP

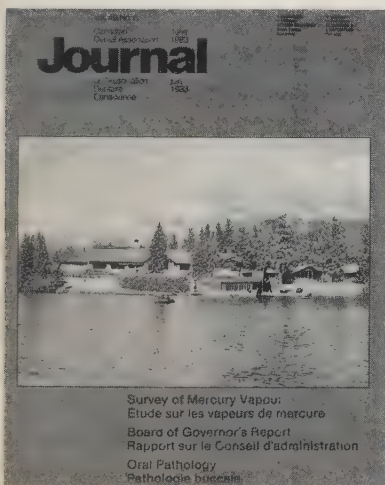
- 374 Obituaries

- 428 Marketplace

- 431 Announcements

- 432 Advertisers Index

Cover Photo: See story on Page 363

Survey of
Mercury VapourBoard of
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Oral Pathology

Survey of Mercury Vapour:
Etude sur les vapeurs de mercure
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ISSN0709 8936

Éditorial

- 358 Le Dr Marvin Klotz aborde la question des ressources en personnel dentaire sous un autre angle.

Actualités

- 397 **Rapport du directeur général**
M. Hubert Drouin, directeur général de l'ADC, présente le rapport de l'assemblée intérimaire du Conseil d'administration.
- 412 **Sondage sur les ressources en personnel dentaire des Maritimes**
Des sondages seront effectués tous les deux ans jusqu'à ce qu'on ait accumulé assez de données sur les tendances et les besoins actuels touchant la main-d'oeuvre.
- 410 **Première Conférence de l'ADC sur l'enseignement au Congrès de Vancouver**
La première Conférence de l'ADC sur l'enseignement sera tenu à Vancouver, les 27 et 28 septembre, conjointement avec le Congrès de l'ADC.
- 410 **Voyages avant et après le Congrès**
L'ADC a fait préparer à l'intention des congressistes un choix intéressant de voyages dans l'Ouest.

412 Photo couverture

La photo couverture est une gracieuseté de l'Office canadien du tourisme et montre le Jasper Park Lodge (Jasper, Alberta) ou se tiendra, du 12 au 15 juin, le Congrès mixte de la Société dentaire de l'Ouest du Canada et de l'Association dentaire de l'Alberta.

En Bref

- 414 Un tour d'horizon des principales informations dentaires du Canada et dans le monde.
- 405 **Bibliothèque et Centre de documentation de l'ADC**
La Bibliothèque et le Centre de documentation de l'ADC présentent une liste des articles disponibles sur les urgences au cabinet dentaire. Se trouve ci-joint également une liste des nouvelles publications acquises par la Bibliothèque.
- 412 REER
- 374 Nécrologie
- 428 Petites annonces
- 431 Avis
- 432 Index des annonceurs

Vol. 49 No. 6

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June
1983

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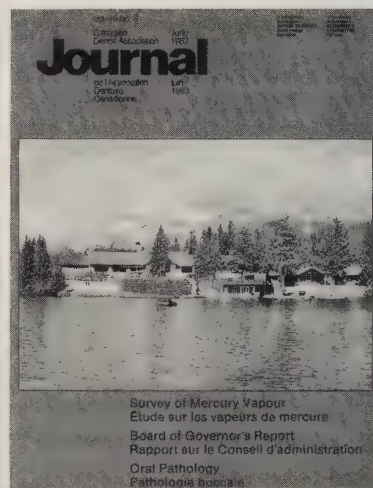
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Photo de la couverture: Voir l'historique en page 412



Étude sur les vapeurs de mercure

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La direction du Journal ne partage pas nécessairement les opinions qu'expriment ses collaborateurs à moins que l'Association Dentaire Canadienne ne les ait adoptées officiellement.

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POWER.. MAN OR MYTH?

It is impossible to ignore the subject of "Manpower". It is a constant presence at dental meetings, in the journals, and in conversation at social gatherings. Editorials, articles and discussions have explored the situation from every angle. It is accepted by all that the lack of "busyness" and potential changes in the fundamental character of our profession are a 'real and present danger'. However, the atmosphere of gloom and doom that pervades most of the comments may be as much of a concern as the problem itself.

What are the facts? There is no doubt, as several thorough and valid surveys have revealed, that the demand for dental services has decreased in relation to the supply of dental appointments available. It is felt that this imbalance, if not corrected, will increase until the inevitable sequelae (bitter competition, subtle and not so subtle advertising, unscrupulous behaviour), become a fact of dental life.

Most surveys state that it is difficult, if not impossible, to increase the present utilization of dental services to an extent which would significantly affect the demand for treatment. It seems reasonable therefore, to attack that problem from the other end — decrease the supply of dentists. This can be done most easily by limiting the number of students accepted into dental school. Many dental organizations have supported and indeed pressed for this measure which has already been instituted by some dental faculties.

Dentists of great integrity and good will have studied the situation and it is pointless to dispute their findings and predictions. However, as with most of the difficult questions in life, there is a time when "informed gut feelings" supercede the "facts". There are many arguments used to justify a decrease in the number of dentists:

- It is not fair to train students at great effort and expense if they can not be assured of a fair chance to build a viable practice;
- An excess of dentists plays into the hands of exploitive dental entrepreneurs;
- Fraud, unethical actions and 'fast buck' methods will become rampant.

These smack of negativism and a remarkable low estimate of the ethics and capabilities of our confreres. In addition, limiting the production of 'new' dentists may be perceived (rightly or wrongly) as a self serving action by the 'establishment' which can not help our public image.

It has always seemed sad and frightening that the most cherished values are so often discarded by democratic

societies during periods of crisis or when 'times are tough'. It is easy to spout high ideals and to pay lip service to concepts of liberty, free enterprise, individual responsibility and presumed innocence. There is no problem when the economy is booming, when no obvious enemy is threatening our security and when tough decisions do not have to be made. Surely, the true test of character is how one responds to real pressure and threats when the chips are down. The best and worst qualities of any human being are revealed during periods of stress and challenge.

These are not just empty concepts to be set aside until "things get better"; nor however, is it reasonable to ignore the realities and practicalities of dental practice.

There are things that can be considered and implemented where applicable. Do we treat only what we or the patient think we know and see? Is as much needed dentistry walking out of the office as is being treated? If lack of time is not a factor why not plan longer appointments so that excellence can be more readily attained. Time spent communicating with patients, both dentally and personally, is invaluable in developing understanding, trust and it is hoped, increased acceptance of comprehensive treatment plans. Extended working hours, shared practices, patient oriented insurance and financial office policies are all within the realm of possibility.

There are no stone carvings guaranteeing success and happiness. In this free society, that we can all enjoy and appreciate, dentistry offers the chance for fulfillment of financial, professional and personal goals. Success, however it is defined, will vary with desire, imagination, ability and determination. To expect, as a matter of course, an earning potential based on what others have achieved or to believe, for instance, that office hours should be 9 — 5, Monday to Thursday, is not only unrealistic but also foolish and in extreme cases it borders on arrogance. Times are definitely tough and there are hard choices to be made. Some will fail, others will thrive — "it was ever thus".

Perhaps the problem is not Manpower but Will power.

*Marvin D. Klotz, D.D.S.,
Willowdale, Ontario*

EDITOR'S NOTE

Dr. Marvin D. Klotz of Willowdale, Ontario, is a new member of the re-organized Editorial Board.

Clarence Metcalfe
CDA Journal Editor

UNE QUESTION D'APPROCHE

On ne saurait méconnaître le problème des ressources en personnel dentaire qui hante nos réunions, défraie la chronique et alimente nos conversations. Editoriaux, articles et discussions ont aidé à en décortiquer tous les aspects. Tous reconnaissent que le manque d'activité et les effets qu'il peut avoir sur l'évolution de la profession dans sa nature même représentent un danger réel. N'y aurait-il pas lieu, cependant, de s'inquiéter tout autant de la morosité dont sont imprégnés les commentaires à ce sujet que du problème en soi?

Où en sont les choses? Comme l'ont établi plusieurs enquêtes approfondies et valables, il ne fait aucun doute que la demande de soins dentaires a diminué par rapport au nombre de rendez-vous offerts. À moins de rétablir l'équilibre, l'écart, croit-on, s'accroîtra au point d'avoir des séquelles qui manqueront inévitablement la vie de la profession (concurrence acharnée, publicité plus ou moins astucieuse, comportements sans scrupules, etc.).

La plupart des études indiquent qu'il est difficile, sinon impossible, d'augmenter le recours aux services dentaires de façon à influencer sensiblement la demande de soins. Il semble donc raisonnable de s'attaquer au problème à rebours en réduisant le nombre des dentistes. Il suffit d'accepter moins de candidatures dans les facultés de médecine dentaire. Beaucoup d'organismes ont soutenu cette approche et, devant leurs instances, certaines facultés ont déjà adopté la mesure.

Des dentistes d'une grande intégrité et pleins de bonne volonté ont étudié la situation, et il serait inutile de mettre en doute leurs conclusions et leurs prévisions. Toutefois, comme c'est le cas face aux grandes difficultés de la vie, il vient un moment où un sentiment éclairé l'emporte sur les faits. On justifie la réduction du nombre des dentistes de bien des façons:

- il n'est pas juste de former à grands frais des étudiants qui n'auraient pas, à coup sûr, d'occasions équitables de se monter un cabinet rentable;
- une surabondance de dentistes favorise les exploiters qui les tiendront à leur merci;
- la fraude, l'immoralité et la rapacité finiront par régner.

Tout cela dénote une attitude négative et un manque notable d'estime à l'endroit de nos confrères, de leur moralité et de leurs capacités. Par ailleurs, limiter le nombre des nouveaux dentistes peut être vu (à tort ou à raison) comme une mesure visant à protéger ceux qui sont déjà en place, ce qui ne saurait améliorer l'image que nous projetons.

Il est triste et effrayant de voir les sociétés démocratiques abandonner si souvent, en période de crise ou dans les moments difficiles, les valeurs auxquelles elles tiennent le plus. Il est facile de pérorer sur les idéaux et de parler du bout des lèvres de liberté, de libre entreprise, de responsabilité personnelle et de présomption d'innocence. Cela ne fait aucun problème en période de prospérité, quand rien ne semble menacer notre sécurité, quand il n'y a pas de décisions épineuses à prendre. Mais, c'est dans les moments cruciaux, lorsque les pressions et les menaces se font réellement sentir, que les caractères sont mis à l'épreuve. C'est dans les moments de stress, face au défi, que se révèlent les qualités, bonnes ou mauvaises, d'une personne.

Ce ne sont pas là des notions vides de sens qu'on peut oublier en attendant que la situation s'améliore, pas plus qu'on ne saurait négliger les questions concrètes et pratiques touchant la profession. Il y a des mesures appropriées aux circonstances qu'on peut examiner et mettre en oeuvre. Soignons-nous seulement ce que nous savons et voyons, ou ce que le patient pense que nous savons et voyons? En quittant le cabinet, le patient a-t-il encore besoin d'autant de soins dentaires qu'il en a reçus? Si on en a le temps, pourquoi ne pas allonger les rendez-vous pour offrir, avec plus d'empressement, un service de qualité? Le temps que nous consacrons au patient, à parler de lui et de ses problèmes dentaires, est inestimable. Cela l'aide à mieux comprendre, à avoir davantage confiance et, espérons-le, à mieux accepter le plan global de traitement que nous pourrions lui suggérer. Il est toujours possible d'allonger les heures de travail, de partager son cabinet avec un confrère, d'adhérer à des régimes d'assurance pour les patients et d'élaborer des mesures de financement pour le bureau.

Rien ne vient sans peine, pas plus la réussite que le bonheur. Dans la société libre que nous aimons et apprécions, la médecine dentaire nous donne la possibilité de réaliser nos objectifs sur le plan financier, professionnel et personnel. Quelque soit le sens que nous lui donnions, notre réussite varie selon nos aspirations, notre imagination, notre habileté et notre détermination. S'attendre à ce que son revenu soit naturellement aussi élevé que celui des autres ou croire, par exemple, qu'on ne saurait faire autre chose que du neuf à cinq, du lundi au jeudi, c'est non seulement irréaliste mais aussi insensé et, au pis aller, c'est presque de l'arrogance. Nous traversons une période pénible qui rend les décisions difficiles à prendre. Certains failliront, d'autres réussiront. Il en a toujours été ainsi.

Notre problème n'en est peut-être pas un de ressources mais de détermination.

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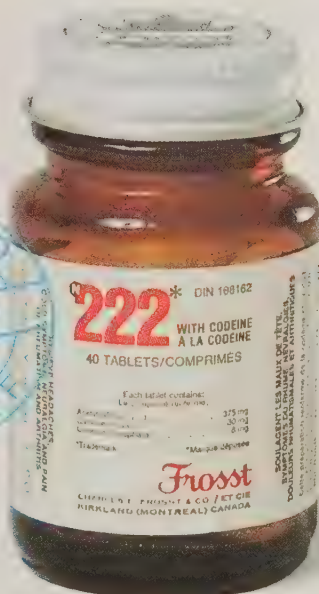
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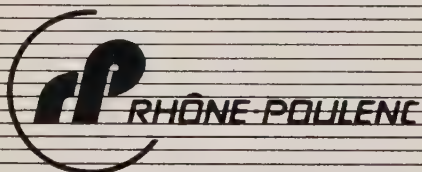
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Lift restrictions

As you say, the Canadian dental schools are contributing to the oversupply of dentists. To reverse the trend it has been suggested that we might close some schools, cut enrolment in the others, attract mature students and fail more people in their fourth year.

More creatively, we might encourage rather than prohibit students who want to come here from abroad. It was always an insular restriction anyway and we have been poorer for it but we thought it was justified when Canada was so very short of practitioners.

While I can speak from any inside knowledge only of Toronto's Faculty, it is evident that our teaching programs should be broadly useful even to undergraduates drawn from a variety of social needs and resources. We have that North American clinical style that likes comprehensive rehabilitation and exact technique. As well, though, we have a productive skepticism about inherited and conventional beliefs which leads us to look for the conceptual bases for what is taught. The result is a fondness for simplicity, for the necessary and sufficient, for what is sensible. And we

have laboratory scientists too who make some effort to be relevant.

Toronto — and I suspect this is true of the Canadian schools generally — thus has a curriculum that is valid whether students come from developmentally advanced countries or from the third world. It seems we may have a unique opportunity here to be useful. If so, we should take it.

Hugh F. MacKay, DDS
Associate Professor
Prosthodontic Department
Faculty of Dentistry,
University of Toronto.

Food and travel too?

I was very impressed by the wine article which appeared in the March issue of the Journal of the Canadian Dental Association. All you need to do now is eliminate the scientific articles and substitute a food and travel section and I'll gladly cancel my subscription to GOURMET magazine.

Dr. J.V. Cambruzzi
DDS, MRCDS

Cover photo

The conjoint Convention of the Western Canada Dental Society and the Alberta Dental Association is being held June 12 — 15 in Jasper, Alberta.

The cover photograph, provided through the courtesy of the Canadian Government Office of Tourism, portrays the Jasper Park Lodge, headquarters for the conjoint Convention.

The theme of the Convention is "Physical & Financial Fitness."

During the same period, the Alberta Dental Assistants' and Alberta

Dental Hygienists' Associations will be holding a Conference in Jasper. Their headquarters will be at the Sawbridge Hotel.

Correction

The Journal has been informed by the Newfoundland Dental Association, that denturism is not legal in that province, as well as Prince Edward Island, as reported in the Briefly section in the April 1983 edition.

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For relief of mild to moderate pain, fever and inflammation as in influenza, common cold, low back and neck pain, headache, trauma, following dental and surgical procedures.

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Adults—1 or 2 tablets one to three times daily; Children's dosage, when recommended by a physician: 10 to 14 years, one tablet, one to three times daily; 5 to 10 years, one-half tablet, one to three times daily.

CONTRAINDICATIONS

Gastrointestinal ulceration and sensitivity to any of the components.

WARNINGS

Salicylates increase the effects of anti-coagulants. Caution is necessary when salicylates and anticoagulants are prescribed concurrently. Also, salicylates may depress the concentration of prothrombin in the plasma. Large doses of salicylates may affect insulin requirements of diabetics. Salicylates may potentiate sulfonylurea hypoglycemic agents. Analgesic abuse (excessive and prolonged therapy) has been associated with nephropathy. TO AVOID ACCIDENTAL POISONING ACETYSALICYLIC ACID PREPARATIONS MUST BE KEPT WELL OUT OF REACH OF CHILDREN.

PRECAUTIONS

Give with caution to patients with asthma, other allergic conditions, bleeding tendencies, or hypoprothrombinemia. Salicylates can produce changes in thyroid function tests.

Observe care in use of codeine, although tolerance and addiction are rare. Give codeine with caution to patients with severe respiratory depression. Its depressant effect may be enhanced by concurrent administration of sedatives and tranquilizers.

ADVERSE REACTIONS

Acetylsalicylic acid: Gastrointestinal: dyspepsia, heartburn, nausea, vomiting, diarrhea, gastrointestinal ulceration and bleeding. Ear reactions: tinnitus, hearing loss. Hematologic: anemia, leukopenia, thrombocytopenia, purpura. Dermatologic and Hypersensitivity: urticaria, angioedema, pruritus, various skin eruptions, asthma and anaphylaxis. Miscellaneous: mental confusion, drowsiness, sweating and thirst.

Codeine: Average or large doses may cause various gastrointestinal symptoms such as nausea, vomiting and constipation.

Caffeine: May cause nausea, nervousness, insomnia, headache, vomiting, palpitation, vertigo, muscle tremor, sensory disturbances, excessive diuresis in sensitive patients. Large doses may cause gastric ulceration.

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Survey of dental manpower needs is now underway in Atlantic provinces

The second in a series of Professional Surveys has been sent out to all practicing dentists in the Atlantic provinces by the Atlantic Provinces Manpower Committee.

The Committee, consisting of four faculty members from Dalhousie University's Faculty of Dentistry, and the four provincial registrars, was set up some years ago to oversee dental manpower needs in the Maritimes.

The surveys, the first of which was sent out in 1980, will be conducted every two years until enough data about current Atlantic manpower trends and needs is gathered.

Dr. Bruce Bowden, chairman of the Committee and registrar of the Newfoundland Dental Association, said the survey is being done in answer to a feeling by the dental population in the Atlantic provinces that "we may be over-manpowering ourselves."

Dalhousie University, as the chief supplier of dentists to the Maritimes, will be presented with recommendations for dental manpower in the Atlantic provinces when the surveys are completed.

"It is hoped that after this second survey the Committee will have sufficient data to present recommendations for future manpower needs to Dalhousie," said Dr. Bowden.

Dr. Bowden stressed, however, that the Committee has no idea what results the surveys will show. "We did not organize this survey to bear-bait the Faculty at Dalhousie," he said.

"The survey results can go either way and the Committee is there to simply test the water in the area of dental manpower so we can be helpful to Dalhousie. When the results of the survey are in, the Committee may be able to either support Dalhousie's current program and number of dental graduates or advise the University

that not as many graduates may be needed in the future," he said.

Dr. John Isenor, a Dalhousie dental faculty member who is on the Manpower Committee, said the Committee has not, up to now, had enough information on Atlantic dental manpower trends to make recommendations one way or the other.

"It must be remembered that any recommendations made by the Committee following the surveys will not be felt in the Atlantic provinces for four or five years," said Dr. Bowden.

The surveys over the next few years are designed to provide the Committee with this vital manpower information.

Grant assures continuation of mobile clinic service to disabled

The Ontario Ministry of Health has provided the University of Toronto Faculty of Dentistry's mobile dental clinic with a \$110,000 grant.

The funding will enable the clinic to continue to aid disabled dental patients in Ontario's underserved areas, particularly in Northern Ontario.

The mobile dental clinic provides dental services free of charge to disabled people of all ages living in the province's underserved areas. The clinic travels to areas where there is a demonstrated need and request for service.

Started four years ago as part of the University of Toronto's 150th anniversary, the clinic was granted \$284,000 from the Atkinson Charitable Foundation. This funding would have run out in June. The new provincial grant will provide funds for a further two years of operation — \$44,000 for 1983-84 and \$66,000 for 1984-85.

During its first two years of operation, the clinic was run in a mobile dental coach on loan to the Faculty from the province's Ministry of Health. In its third year, a special 60 foot fully equipped dental trailer was

designed, built and used for the clinic. The trailer is a fully equipped dental office and has all the special facilities needed to treat the disabled, as well as complete living facilities for the practitioner.

The clinic operates year round, staffed by a resident graduate dentist who is one of three Faculty of Dentistry residents, each of whom spends a total of four months on the coach on assignments of two months at a time. Ten to 12 undergraduate senior students also undertake assignments with the clinic for one-to-two-week periods during the academic year.

The clinic also employs a full-time dental assistant. When the trailer is located in an area close to a community college, students training to be dental assistants or hygienists have an opportunity to visit and work on it.

Though mobile, the trailer remains stationary in one area for a minimum of one year at a time, servicing all the nearby communities where dental services and facilities for the disabled are lacking. In Northern Ontario, the clinic has visited North Bay, Sudbury and New Liskeard in previous years. It is stationed at the Cochrane-Temiskaming Resource Centre in South Porcupine this year.

CANADIAN ENDORSEMENT

American Academy of Periodontology's view of prevention and treatment of gum diseases



Samuel Newman, DDS, FRCD(c),
President, Canadian
Academy of
Periodontology

"The Canadian Academy of Periodontology endorses the views of the American Academy of Periodontology as expressed in this position paper.

We hope that interest in this approach to treatment will stimulate a further interest in learning more about the causes and development of Periodontal disease. This will allow the dentists to better evaluate this, as well as other methods of Periodontal treatment."

Gum disease afflicts 90 per cent of all Americans and causes 70 per cent of all adult tooth loss. A number of dentists claim to treat this condition "without surgery." The misleading implication is that periodontists, specialists in treating gum disease, use "surgery" on all patients.

Basic to this claim is the "Keyes" method of treatment advocated by Paul Keyes, DDS, formerly with the National Institute of Dental Research. He urges the use of a mixture of baking soda, salt and hydrogen peroxide by the dentist and the patient, referring to his approach as "Modulated and Monitored Therapy." The monitoring aspect is the use of a phase contrast microscope to view material from the patient's mouth via videotape recording. The video is intended to show a decline in bacteria and encourage patients to maintain home care. The value of counting and identifying bacteria is questionable because studies carried out by a number of universities have shown no direct causative association of any particular species of bacteria and the most common forms of gum disease. Furthermore, sampling may be incomplete.

In an effort to make treatment for gum disease as therapeutic, simple, and cost effective as possible, various treatment methods have been continually evaluated by the profession's investigators. Some of these evaluations have been directed at comparing the effectiveness of various antibacterial agents. None of literally dozens of agents tested, including baking soda and peroxide, justifies elimination of periodontal surgery in advanced cases.

Periodontists, like all qualified health professionals,



Charles W. Finley, DDS
President, American
Academy of
Periodontology

"The American Academy of Periodontology adopted this position statement in an effort to sound a warning concerning inappropriate use of the so-called Keyes method."

deal with each case by careful examination, diagnosis and clinical judgment of the patient's individual response.

The methods of treatment widely used by periodontists and other dentists include a number of recognized procedures. In its earliest stages, treatment of gum disease may be little different from the routine professional "cleaning" normally performed by any competent dentist or hygienist and the establishment of an adequate home care program.

Current "nonsurgical" treatment uses standard periodontal procedures of thorough scaling to remove tartar, and root smoothing. Essential to this treatment is the daily, at-home removal of plaque by the patients, and maintenance of a schedule of cleaning by the therapist.

When periodontal disease is advanced, surgical treatment has been shown to be more effective than nonsurgical treatment in at least three independent long-term studies. There are no such studies thus far showing that the treatment advocated by Dr. Keyes is an effective alternative to surgical therapy. This position was recently endorsed by a workshop sponsored by the National Institute of Dental Research.

Because no long-term studies of the technique have been completed, the "Keyes technique" is experimental. Therefore, patients may be short changed if the method he advocates is less effective than prevailing periodontal therapy.

It is the position of the American Academy of Periodontology that individuals should see their dentist on a regular basis to be checked for signs of gum disease. It is every dentist's obligation to examine the gums as a routine procedure and explain to patients the proper and effective way to cleanse the teeth and mouth. Many dentists refer patients with gum disease to a periodontist, who is specially trained and qualified to treat such problems.

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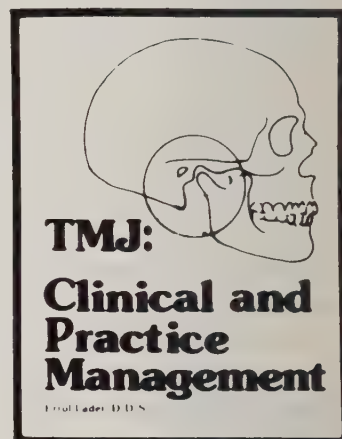
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Annual FDI Congress in Tokyo, Nov. 14-20

The 71st annual World Dental Congress of the Fédération Dentaire Internationale (FDI) will take place in Tokyo, Japan November 14-20.

A preliminary social and scientific program is available from FDI.

The scientific program for the Tokyo Congress includes discussion on three main themes. Theme one is the "Longevity of the Human Dentition." Talking on various aspects of this theme will be noted speakers from Finland, the USA and France.

The second theme, "Preventive Measures for Preserving the Longevity of Dentition," will feature speakers from East Germany, Sri Lanka, the USA and the United Kingdom.

The third main theme of the scientific program—"Recent Developments in the Delivery of Dental Care which



Hotel New Otani, FDI Congress Headquarters.

Contribute to the Longevity of the Dentition" features speakers from Japan, Australia, New Zealand and West Germany.

Other highlights of the World Congress will be programs of the various FDI commissions and two symposiums, one on "New Developments in Clinical Dentistry" and one on "The



Nihon Budokan Hall: Site of the opening ceremonies.

Use of Electronics in Dentistry." Two other aspects of the program will be lecture sessions on topics of interest in dentistry and several group research reports.

FDI World Congress headquarters will be in the Hotel New Otani in Tokyo. The opening ceremonies will be held at the Nihon Budokan Hall.



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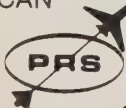
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CDA Teaching Conference is being held for first time in conjunction with the CDA Convention

The CDA Teaching Conference on Tuesday, Sept. 27 and Wednesday, Sept. 28, is being held for the first time in conjunction with the Canadian Dental Association Convention.

The topic of the Vancouver Conference — "Current Management Concepts for Dental Practice and Improved Methodology for Learning These Concepts" — was believed by the Association of Canadian Faculties of Dentistry and CDA's Council on Student Affairs to be quite timely.

Those who attend will be introduced to current management concepts being taught in United States dental schools to students preparing to enter dental practice in the 1980s. Subject matter will include ergonomics and efficient work systems, personnel management, business, finance and personal management.

Keynote speaker

The keynote speaker and participant in these sessions will be Dr. Harvey A. Strand, BSc, DDS, a member

of the staff of the Department of Restorative Dentistry, Faculty of Dentistry, University of Washington, Seattle. Dr. Strand was chiefly responsible for the establishment of a TEAM (training in expanded auxiliary management) program at the University of Washington, and he has lectured extensively on the subject of practice management throughout the United States. He still carries on a general private practice.

Dr. Strand also served as chairman of the American Association of Dental Schools Section on Practice Management activity for the development of curriculum guidelines for the teaching of practice management, and was chairman of the Section in 1978-80.

Opening session

In the opening Tuesday afternoon session in the Social Suite, Hotel Vancouver at 2 p.m. on Sept. 27, Dr. Strand will make a general presentation to an audience of representatives of the faculties of the 10 Canadian

dental schools. This session will also be open to anyone attending the CDA Convention.

The sessions will continue all day on Wednesday, Sept. 28 — from 9 a.m. to noon, and from 2 p.m., until approximately 5 p.m.

On Wednesday, Dr. Strand will make a brief introductory presentation directly related to practice management and then faculty representatives will be asked to briefly present their programs in that subject and related areas. There will be ample opportunities for discussion of general principles and guidelines and it is likely that a report and recommendations will develop from these sessions.

The Wednesday session is primarily for invited participants, although others will be welcome as observers.

The chairman of the 1983 Teaching Conference is Dr. Roger L. Ellis, Professor and Chairman, Department of Dental Health Care, Faculty of Dentistry, University of Alberta, Edmonton, Alberta.

Pre- and Post-Convention tours

A variety of interesting tours have been arranged for the periods immediately before and after the CDA Convention in Vancouver.

These include an Alaska Cruise on the famous "Love Boat" line — seven nights, round trip from Vancouver, from Sept. 17 to Sept. 24; a Hawaiian Holiday, from Sept. 17-24, Seven nights at the Hilton Hawaiian Village

on Waikiki Beach; San Francisco Experience, Sept. 29 to October 3, four nights at a deluxe hotel two blocks from Union Square; a Las Vegas Weekend, Sept 29 to October 2, three nights at the Flamingo Hilton Hotel in the heart of the Strip; Royal Victorian Excursion, including overnight accommodation at the Empress Hotel in Victoria and a tour of the

Butchart Gardens (two days and one night), departures daily from Vancouver, and the Kicking Horse Tour, from Calgary to Vancouver, Sept. 21 — 24, or from Vancouver to Calgary, Sept. 30 — Oct. 3, via Royal Glacier motor coach.

A selection of Vancouver city and area tours will also be available from the Hotel Vancouver. These include a

three-hour city and aquarium tour, including Stanley Park, Gastown, Chinatown and the downtown area; a four-hour Grand North Shore tour, to Capilano Canyon and suspension bridge, salmon hatcheries, British Properties, Seabus, and Grouse Mountain Skyride; three-and-a-half hour city tour visits to major Vancouver points of interest; an eight-hour tour visits the Royal Hudson, Britannia Mines and Shannon Falls, and a six-hour Indian Arm cruise.

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Single	\$ 189

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Ibuprofen has been found to be less likely to cause gastro-intestinal bleeding in doses usually used than is acetylsalicylic acid.

Clinical trials in man have shown activity of a dose of 1200-1800 mg of ibuprofen daily to be similar to that of 3.6 grams of acetylsalicylic acid daily.

Indications and Clinical Uses: Motrin (ibuprofen) is indicated for the treatment of rheumatoid arthritis and osteoarthritis. Motrin is also indicated for the relief of mild to moderate pain accompanied by inflammation in conditions such as musculo-skeletal trauma and post-dental extraction. Motrin is also indicated for the relief of pain associated with dysmenorrhea.

Contraindications: Motrin (ibuprofen) should not be used in patients who have previously exhibited hypersensitivity to it, or in individuals with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to acetylsalicylic acid or other nonsteroidal anti-inflammatory agents. (see WARNINGS)

Motrin should not be used during pregnancy, in nursing mothers or in pediatric patients because its safety under these conditions has not been established.

Warnings: Anaphylactoid reactions have occurred in patients with known A. S. A. hypersensitivity (see CONTRAINDICATIONS)

Peptic ulceration and gastrointestinal bleeding, sometimes severe have been reported in patients receiving Motrin (ibuprofen). Peptic ulceration, perforation, or severe gastrointestinal bleeding can have a fatal outcome, and although few such reports have been received with Motrin, a cause and effect relationship has not been established. Motrin should be given under close supervision to patients with a history of upper gastro-intestinal tract disease.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in colour vision have been reported. If a patient develops such complaints while receiving Motrin (ibuprofen), the drug should be discontinued and the patient should have an ophthalmologic examination.

Fluid retention and edema have been reported in association with Motrin; therefore, the drug should be used with caution in patients with a history of cardiac decompensation or renal disease.

Motrin, like other nonsteroidal anti-inflammatory agents, can inhibit platelet aggregation but the effect is quantitatively less and of shorter duration than that seen with acetylsalicylic acid. Motrin has been shown to prolong bleeding time (but within the normal range) in normal subjects. Because this prolonged bleeding effect may be exaggerated in patients with underlying hemostatic defects, Motrin should be used with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients on Motrin should be cautioned to report to their physicians signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

When Motrin is added to the treatment program of patients who have been on prolonged corticosteroid therapy, and it is decided to discontinue this therapy, the corticosteroid should be tapered slowly to avoid exacerbation of disease or adrenal insufficiency.

Aseptic meningitis has been reported in connection with Motrin therapy in patients with systemic lupus erythematosus. Such patients may also develop hypersensitivity reactions to Motrin such as fever, rash or abnormal liver function more often than those with other disorders. Caution should therefore be exercised when considering Motrin therapy for patients with systemic lupus erythematosus.

Drug Interactions

Coumarin-type anticoagulants: Several short-term controlled studies failed to show that Motrin significantly affected prothrombin times or a variety of other clotting factors when administered to individuals on coumarin-type anticoagulants. However, because bleeding has been reported when Motrin and other nonsteroidal anti-inflammatory agents have been administered to patients on coumarin-type anticoagulants, the physician should be cautious when administering Motrin to patients on anticoagulants.

A. S. A.: Animal studies show that A. S. A. given with nonsteroidal anti-inflammatory agents including Motrin yields a net decrease in anti-inflammatory activity with lowered blood levels of the non-A. S. A. drug. Single dose bioavailability studies in normal volunteers have failed to show an effect of A. S. A. on Motrin blood levels. Correlative clinical studies have not been done.

Adverse Reactions: The following adverse reactions have been noted in patients treated with Motrin (ibuprofen).

Note: Reactions listed below under Causal Relationship Unknown are those which occurred under circumstances where a causal relationship could not be established. However, in these rarely reported events, the possibility of a relationship to Motrin cannot be excluded.

Gastrointestinal: The adverse reactions most frequently seen with Motrin therapy involve the gastrointestinal system.

Incidence 3 to 9%: nausea, epigastric pain, heartburn.

Incidence 1 to 3%: diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the gastrointestinal tract (bloating or flatulence).

Incidence less than 1%: gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, hepatitis, jaundice, abnormal liver function (SGOT, serum bilirubin and alkaline phosphatase).

Central Nervous System:

Incidence 3 to 9%: dizziness

Incidence 1 to 3%: headache, nervousness

Incidence less than 1%: depression, insomnia

Causal relationship unknown: paresthesias, hallucinations, dream abnormalities

Dermatologic:

Incidence 3 to 9%: rash (including maculopapular type)

Incidence 1 to 3%: pruritus

Incidence less than 1%: vesiculobullous eruptions, urticaria, erythema multiforme

Causal relationship unknown: alopecia, Stevens-Johnson syndrome.

Special Senses

Incidence 1 to 3%: tinnitus

Incidence less than 1%: amblyopia (blurred and/or diminished vision, scotomata and/or changes in colour vision). Any patient with eye complaints during Motrin therapy should have an ophthalmologic examination (see PRECAUTIONS)

Causal relationship unknown: conjunctivitis, diplopia, optic neuritis

Metabolic

Incidence 1 to 3%: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS)

Hematologic:

Incidence less than 1%: leukopenia and decreases in hemoglobin and hematocrit

Causal relationship unknown: hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes (e.g. purpura, epistaxis, hematuria, menorrhagia)

Cardiovascular

Incidence less than 1%: congestive heart failure in patients with marginal cardiac function, elevated blood pressure.

Causal relationship unknown: arrhythmias (sinus tachycardia, sinus bradycardia, palpitations).

Allergic:

Incidence less than 1%: anaphylaxis (see CONTRAINDICATIONS)

Causal relationship unknown: fever, serum sickness, lupus erythematosus syndrome

Endocrine:

Causal relationship unknown: gynecomastia, hypoglycemic reaction.

Renal:

Causal relationship unknown: decreased creatinine clearance, polyuria, azotemia

Symptoms and Treatment of Overdosage: A nineteen month old child weighing 12 kg ingested from 2800 to 4000 mg of Motrin (ibuprofen) and presented with apnea, cyanosis and responded only to painful stimuli. Oxygen and parenteral fluids were given and at 12 hours she appeared completely recovered. Two other children (10 kg each) ingested 1200 mg of Motrin each and there were no signs of acute intoxication or late sequelae. A 19 year old male who had ingested 8000 mg of Motrin reported dizziness, and nystagmus was noted. He recovered with no reported sequelae after parenteral hydration and three days' bed rest.

In cases of acute overdosage, the stomach should be emptied by vomiting or lavage, though little drug will likely be recovered if more than an hour has elapsed since ingestion. Because the drug is acidic and is excreted in the urine, it is theoretically beneficial to administer alkali and induce diuresis.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis:

The initial daily dosage in adults is 1200 mg divided into 3 or 4 equal doses. Depending on the therapeutic response, the dose may be adjusted downward or upward. The daily dosage should not exceed 2400 mg.

Maintenance therapy, once maximum response is obtained, will range from 800 to 1200 mg per day.

Mild to moderate pain accompanied by inflammation, dysmenorrhea: 400 mg repeated as required every 4 to 6 hours. The daily dosage should not exceed 2400 mg.

Children: Due to the lack of clinical experience, ibuprofen is not indicated for use in children under 12 years of age.

Supplied: 200 mg (yellow), 300 mg (white), 400 mg (orange) sugar-coated tablets and 600 mg (peach) film-coated tablets in bottles of 100 and 1000

Product monograph available on request. CE 1542 1C

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FEDERATION DENTAIRE INTERNATIONALE MEMBERSHIP

Membership in the Federation Dentaire Internationale for 1983 is now open for new or renewed membership. Supporting membership from Canada and attendance at the Vienna Congress in 1982 was significant and it is hoped that such support will continue. After the March 1983 issue, only those who renew their membership will continue to receive the Newsletter and in addition, it is necessary to be a supporting member to attend the outstanding Congress planned for Tokyo, Japan on November 14-20, 1983.

Registrants to FDI world congresses must be supporting members of the Federation. To be eligible for supporting membership, Canadian dentists must be members of the Canadian Dental Association.

The subscription fee is \$35 (Canadian) or in combination with a subscription to the International Dental Journal \$60 (Canadian). We urge you not only to become a member but to encourage your colleagues to join as well.

Your membership fee is your contribution in support of FDI in its efforts to promote improved dental health on a worldwide basis in direct exchange of scientific knowledge and expertise. A portion of the fee will also be used by the CDA to offset administrative expenses associated with the FDI membership program.

Please return the attached form with your remittance without delay to the Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6.

Application forms for the Tokyo Congress will be sent with your receipt and 1983 membership card.

CANADIAN DENTAL ASSOCIATION
1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6

MEMBERSHIP APPLICATION FEDERATION DENTAIRE INTERNATIONALE

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NAME _____ ADDRESS _____

THIS IS NOT A LICENCE FEE, this is your remittance for annual supporting membership.

Please return this form with your remittance payable to CDA. A receipt and membership card will be issued.

Dr Frank Lott

Organizer of Canadian Dental Corps dies in California

Dr. Frank Lott, of San Luis Obispo, California, the man directly responsible for the organization of the Canadian Dental Corps, died May 15, 1982.

Born and educated in Uxbridge, Ontario, Dr. Lott was a member of the Canadian Army Signal Corps and served in England and France during World War I. Returning to Canada, he graduated from the University of Toronto in 1923 and then practised dentistry in Windsor and Detroit prior to returning to the university and becoming professor of prosthetic dentistry in 1931.

Among his academic honours, Dr. Lott held an LDS, DDS, BSc, MSc and a PhD. His doctoral thesis entitled "The Organization of an Army Dental Corps in Time of War" was presented to the Committee on Military Services of the Canadian Dental Association in 1938. After adopting the report, the Canadian Dental Association sent it to the Minister of National Defence recommending that the defence dental services should be an autonomous Corps directly under the Adjutant General's Department and would provide dental treatment to all three services. The Association also requested they be allowed to name the Director of Dental Services. These recommendations were accepted by the government and, in 1939, at the outbreak of war, Dr. Lott was called to Ottawa and appointed "Chief Dental Officer and Officer Administering the Canadian Dental Corps" with the rank of Lieutenant-Colonel. Subsequently, he was promoted to Colonel, later Brigadier, and appointed Director General of Dental Services.

Following the Second World War, Dr. Lott was invested by King George VI as a Commander in the Order of the British Empire. Brigadier Lott therefore organized the Canadian



Dr. Frank Lott

Dental Corps which later evolved into the Royal Canadian Dental Corps and then to the present day Canadian Forces Dental Services.

From 1946-49, Dr. Lott headed the research department of the Dental Supply Company of New York. In 1949, he was appointed Chairman of the Department and Professor of Prosthetics at the University of

Southern California Dental School. He retired from the position in 1965.

Dr. Lott was active in a number of organizations. In 1963, he was named Fellow and President of the Academy of Denture Prosthetics and was Diplomate and President (1967) of the American Board of Prosthodontics.

As an innovative researcher and scientific writer, Dr. Lott was the first to publish a technique which formed the denture base according to the concepts of Wilfred E. Fish (1932). He was also the first to use porcelain as a base for complete dentures in 1937. He contributed much to scientific research through articles in both Canadian and American journals and through lectures and courses.

His wife, Mabel Martin Lott, and his son, Charles, predeceased him. Dr. Lott is survived by his daughter, Jessie Lott Alexander and four grandchildren.

Obituaries/ Nécrologies

COLEMAN, W.B.: Dr. Coleman was a graduate of Dalhousie University Faculty of Dentistry in 1952. He was born in 1921 and was a resident of Baddeck, Nova Scotia, at the time of his death.

EASTWOOD, Benjamin Joseph: A graduate of the University of Alberta in 1942, Dr. Eastwood was born in Edmonton, Alberta, in 1918. He practiced dentistry in Edmonton until his retirement in 1970.

GERARD, Ed. I.: Dr. Gerard, a resident of Duncan B.C., graduated in 1965 from the University of Alberta. He was born in 1936.

HURTON, James Robert: A native of Carman Manitoba,

Dr. Hurton practiced dentistry in Portage La Prairie, and Brantford Ontario. A graduate from the Royal College of Dentistry in Toronto in 1923, Dr. Hurton was a resident of Grimsby, Ontario, at the time of his death.

MacCALLUM, Thurlow: Dr. MacCallum of Sault Ste. Marie, Ontario, was a life member of the Canadian Dental Association. Born in 1897, he graduated from McGill University in 1925.

VERRETT, C.J.: Dr. Verrett, a graduate of the University of Montreal, was born in 1896. He graduated in 1923 and was a life member of the Canadian Dental Association. He resided in Grand Falls, New Brunswick, at the time of his death.

Briefly —

The provincial government of Prince Edward Island has slashed the province's dental care plan for children.

"This is war," said Dr. Ray Wenn, Secretary-treasurer of the Prince Edward Island Dental Association.

The PEI Children's Dental Care Plan has been in existence for approximately 12 years, and covered children from age four to 16, inclusive.

Under the new provincial government budget, children would now only be covered from age four to 12, inclusive. Funding, said Dr. Wenn, has also been cut by \$500,000.

"We feel that the Children's Dental Care program has been an excellent one and worked well for many years," he said. "These cutbacks will affect between 7,000 and 8,000 kids."

A campaign against the cuts has already begun in the province. The PEI Dental Association has received excellent media coverage of their stand against the cutbacks, and more coverage is expected.

"We also intend to contact every MLA and make our feelings known," said Dr. Wenn.

The New Brunswick Dental Society held their annual meeting April 16, 1983 and elected new officers.

The new President of the Society is Dr. R. A. Turcotte of Saint John. President-elect is Dr. P.F. Cyr of Bathurst, and past-president is Dr. J.W. McMullen of Fredericton. Dr. J.G. Thompson remains as Executive Director/Registrar.

According to Dr. Thompson, the Society also passed two important resolutions at the April meeting. One was the Society will support mandatory seat belt legislation for New Brunswick.

In a second resolution, the Society



Dr. R.A. Turcotte

reaffirmed its support for the oral rinse program run by the New Brunswick Department of Health.

Keynote speakers at the meeting included the provincial Health Minister, and CDA President, Dr. W.R. Thompson.

New executive members were recently elected to the administrative council of l'Association des chirurgiens dentistes du Québec. Dr. Claude Chicoine was elected president; Dr. Daniel Pelland, executive director; Dr. Micheline Blain, first vice-president; Dr. Yves Giguère, second vice-president and Dr. Daniel Montminy, treasurer.

Drs. Gaston Michaud, Pierre Corbeil and Gilles Dubé, were elected council members.

The Ontario Ministry of Health has granted \$28,000 to provide the 3,400 residents of the northern community of Black River-Matheson, with dental services.

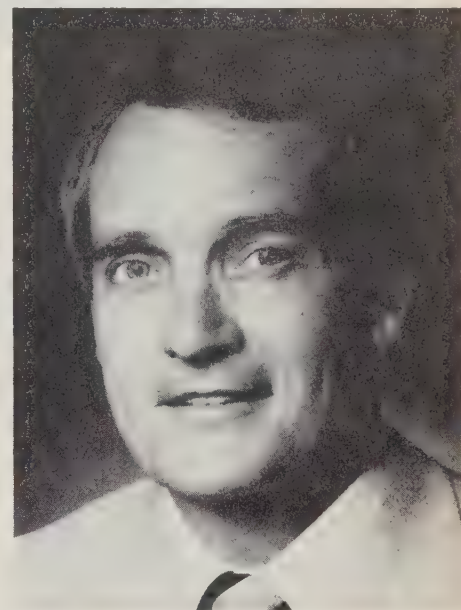
The community was designated an underserved area in terms of full-time dental practice. Previously, residents had to travel outside the area for dental care.

The population will be served by a dentist practicing out of the Bingham Memorial Hospital in Matheson, Ontario.

The new dentist is the 95th practising through the ministry's underserved area program. This program was started by the Ontario government in 1969 to recruit health professionals for areas in the province which cannot meet the medical and dental needs of their residents.

Dr. Donald James O'Connor, of Ottawa Ontario, has been appointed to serve as Chairman for the 1985 Canadian Dental Association convention.

Dr. O'Connor graduated from the University of Toronto, Faculty of Dentistry in 1958. He has been in general practice in Ottawa since that time.



Dr. Donald O'Connor

Other professional offices Dr. O'Connor has held include those of past president of the Ottawa Dental Society, and founding secretary of the Ottawa Dental Study Club. He was also, for six years, governor of the Ontario Dental Association and past president and permanent secretary of the Ottawa Society for the Prevention of Dental Disease.

He is also a Fellow of the International College of Dentists.

The 1985 Canadian Dental Association Convention will be held in Ottawa, September 29 to October 2.

Introducing NutraSweet.[®] Your patients can't buy it, but they're gonna love it.

The first time your patients hear about NutraSweet,^{*} their natural inclination will be to want to run right out and buy some.

It's sweet like sugar, yet it sweetens with far fewer calories.

It's low calorie like saccharine, yet it has no bitter aftertaste.

But the sad fact is, your patients won't be able to buy a bag, box or bottle of NutraSweet anywhere.

NutraSweet is an ingredient.

They can only buy foods and beverages

that *contain* the sweetener NutraSweet.

The taste of sugar without the calories.

For the first time since calorie counting began, NutraSweet makes it possible for your patients to give up calories without compromising on one bit of taste.

This, in turn, means they may be more likely to stick to the diet you've recommended.

Foods made with NutraSweet taste like foods made with sugar. Yet, because NutraSweet is 200 times sweeter than sugar, much less is needed to do the job.

A 10 oz. bottle of cola sweetened with NutraSweet has about two calories, not the 20 calories it has with sugar. A pudding only 5 calories, not 150. In some products, calories may be reduced as much as 95%.

It's a totally new kind of sweetener.

NutraSweet, the brand name for aspartame (APM), isn't like any sweetener you've ever known.

Some of the innovative products using NutraSweet

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- Sugar-Free Pepsi Free™
- Diet Rite™ Cola
- Sugar-Free Shasta™
- Sugar-Free SunCrest™
- Weight Watchers™ Sugar-Free Soft Drinks
- McCormicks dietetic cookies
- Sweet 'N Low™ Drink Mixes
- Nutri/System™ 2000 Dessert and Drink Mixes

It's a sweet nutritive substance made of protein components like those found naturally in most foods. A dipeptide made of aspartic acid and phenylalanine[†] (as the methyl ester).

So, except for the low calories, it's not like saccharine at all.

It has no bitter aftertaste. And unlike saccharine, the body metabolizes NutraSweet as naturally as it does any protein.

This makes NutraSweet especially welcome news for persons with diabetes.[†]

In fact, the Canadian Diabetes Association has found NutraSweet to be acceptable as a sweetener for products that may be included in diabetic meal plans.

It's not just for adults.

The average family of four eats about 100 pounds of sugar a year, much of it in foods that make up a surprisingly large part of nearly every family's diet. Consider this as it applies to dental health alone.

NutraSweet is like protein. Unlike sugar — a carbohydrate — research has shown NutraSweet to be non-cariogenic.

And since it's nutritive and makes things taste as good as it does, NutraSweet can become an important way to satisfy the "sweet tooth" of every family member. Children as well as adults.

How they can love what they can't buy.

NutraSweet is only an ingredient.

But a number of innovative companies are making NutraSweet an important part of some of their products.

Right now, this growing list of products includes carbonated soft drinks, pre-sweetened cereals, crystal beverages, dessert mixes and the tabletop sweetener, Equal®.

To help your patients tell these products from the rest, companies are putting the NutraSweet name on packages and labels.



The average 12-year-old eats his own weight in sugar in a single year. Much of it in everyday foods like canned spaghetti.

Encourage your patients to look for it when they shop.

Because when they find it, they're gonna love what NutraSweet does for their diets. And you're gonna love what NutraSweet does for them.



A free taste of gum sweetened with NutraSweet.

Yes, I think my patients would like to try NutraSweet. Please send more information and professional samples of gumballs sweetened with NutraSweet to:

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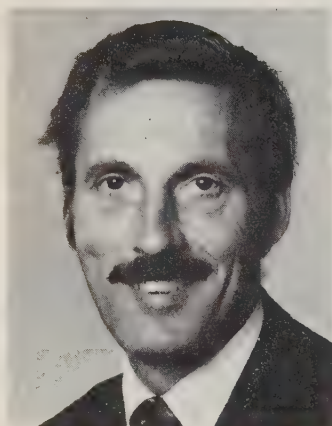
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[†]Physicians counseling persons with phenylketonuria (PKU) or diabetes can write Searle Food Resources for additional information. **SEARLE** ©1983 G. D. Searle & Co.

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Survey of Mercury Vapour in dental offices in Atlantic Canada

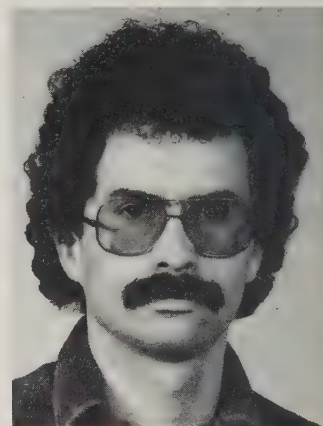
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INTRODUCTION

The risk of health hazard in dentistry due to mercury vapour in operatories has been recognised for many years¹⁻²². This risk should however, be neither exaggerated nor neglected. It is important to the dental profession that evaluations be periodically made of this potential threat to health. Although to date only one case of fatal mercury intoxication of dental personnel has been documented,²³ it is likely that others are suffering at various levels from the toxic effect of mercury^{24,25,26}.

In recent years there has been increasing concern over the potential toxic effects of mercury used in dentistry. This concern focuses upon poor mercury hygiene, which can lead to inhalation and absorption of mercury vapour.

The environmental contamination problem with mercury relates to its relatively high vapour pressure which enables it to easily evaporate into the atmosphere. When mercury evaporates in a closed room, dangerous levels of mercury vapour are readily attained in air. Air saturated

with mercury vapour at 20°C (68°F) exceeds the maximum allowable concentration by more than 260 times. At 25°C the equilibrium concentration of mercury vapour would be about 20 mg/m³, 400 times the maximum recommended T.L.V. level of 0.05 mg/m³.

The vapour pressure of mercury increases rapidly with increases in temperature. The higher the temperature the greater and more rapid will be the vapourization. A mere rise in temperature of 5°C from a room temperature of 20°C would increase the saturation limit of mercury in air by one third. A rise in temperature from 20-30°C will cause the vapour pressure of mercury to increase by 131 per cent, a rise from 30-40°C will produce a further 119 per cent increase in the vapour pressure. On heating from 40-100°C the vapour pressure of mercury will increase by over 4,000 per cent.³ This emphasizes the danger of increasing the concentration of mercury vapour as a result of sterilization of mercury and amalgam contaminated instruments, and the need to store all mercury and mercury containing material well away from any heat source.

Droplets of mercury from a spillage close to radiators, heating ducts, ovens, motors or other such equipment will lead to greatly increased concentrations of mercury vapour.

Since mercury has a high surface tension and a relatively low viscosity at room temperature, any spillage will spontaneously break up on impact with a surface into highly mobile and in many cases sub-micron globules. The ease with which the liquid metal forms globular dispersions of collectively large surface area ensures that even a relatively small spillage of the volatile metal can result in a considerable mercury vapour concentration level being achieved. Although the vapourization of mercury is inhibited by surface oxidation or contamination, this may be a relatively slow process and new surfaces are very easily exposed by any vibration or contact which can disturb the surface of the globules.

However, mercury should not normally be a major health hazard in dental practice, providing that proper work procedures are being followed^{16,19,21}. The ADA put forward a series of recommendations in 1978,¹⁹ and the Council on Dental Materials and Devices of the CDA also published in 1979²⁷ a check list of some 18 points relating to good mercury hygiene. It should always be remembered that mercury is very toxic in most of its forms, particularly as an organic compound. It can enter the body by inhalation, ingestion and skin contact. Mercury will even pass through unbroken skin. Most of the toxicity problems in dentistry occur as a result of inhalation of dust or vapour. Once within the body, mercury is deposited in the tissues and may only remain circulating within the blood for a short period of time. This is one reason why blood mercury levels are not of great value in the detection of mercury poisoning. Research has shown that kidney tissues will have the highest concentration of mercury, followed by liver, spleen and the brain^{28,29}. Inorganic forms of mercury are less well bound and will clear from the system fairly rapidly, resulting in a high urinary level. Urinary mercury levels tend to fluctuate widely under constant conditions, and fall rapidly on cessation of exposure.

In the late 1960's it was found that mercury could be converted into a highly toxic compound namely, methyl mercury by action of unidentified bacteria in the absence of oxygen^{30,31}.

Methyl mercury compounds are many times more toxic to man than elemental mercury or inorganic compounds. The biological transformation of inorganic mercury into far more toxic organic compounds has been studied by many workers during the past 20 years. Mottet et al (1974)²⁸ pointed out that the type of organic mercury compound is also very important to its biological effect. Ostlund (1969)³² has shown that unlike methyl mercury, dimethyl mercury is biologically inactive. The highly toxic nature of methyl mercury relates to its ease of transportation within the body. Methyl mercury is said to be fat soluble and has particular affinity for the brain tissues³³.

There is a slow turnover of mercury in the brain tissues and high concentrations of mercury can remain in the brain long after exposure has ended. Burglund et al (1971)³⁴ reported high concentrations in brain tissue of an individual who had been exposed to elemental mercury some 13 years prior to death. According to Clarkson (1972)³⁵ methyl mercury may need to become converted into the ionic form (Hg^{++}) in order to be active.

Animal experiments have shown that such organic mercury compounds will concentrate in tissues 100 times more than inorganic mercury compounds and that some 10 per cent of this organic mercury will lodge in the brain. The methyl compounds of mercury will thus result in higher levels in brain tissue. Both mono-methyl mercury and mono-ethyl mercury compounds have been shown to be highly toxic, giving rise to severe damage to the central nervous system, with sensory disturbances, ataxia, visual disturbances, and deafness. Mercury is an enzyme poison but it forms a reversible bond. With short exposures, mercury will be rapidly cleared, except from the brain. With prolonged exposure, mercury has been detected in the body for up to six years after cessation of exposure³⁶.

The half-life of methyl mercury is recognized to be of the order of 70-74 days³⁷ whilst the half-life of inorganic mercury is accepted as being of the order of 30-60 days³⁸. When reviewing the toxicological literature it becomes clear that we know very little about the effects of mercury vapour at very low levels of exposure. Without knowledge of the accumulation rate of mercury in different parts of the central nervous system, the effects of low level continuous long term exposures (which are common to the dental environment) are difficult to predict. However we do know that mercury accumulation occurs in critical organs with prolonged exposure³⁶.

The possibility that toxic organic mercury compounds may occur within the dental environment³⁹ or alternatively that inorganic mercury compounds may be converted within the body^{33,40,42} to the more toxic form considerably changes our understanding of the potential danger of mercury pollution in the dental environment. To date we have yet to determine conclusively whether elemental mercury vapour in the dental environment leads to a significant increase in methyl mercury within the body. Cross et al (1978)³³ have however reported on experiments showing that mercury vapour inhaled by dentists is partially converted into methyl mercury in the body. The total inorganic and organic mercury (ng/g dry weight of blood) for the dentists ranged from 67-518 whilst for the control group it was 100-154. Statistical analysis indicated a significant difference between the dentists and control group $P < .005$, for total mercury, methyl mercury and the ratio methyl/total mercury. These observations were said to suggest that chronic accumulation of mercury in dentists and others exposed to mercury vapour may be attributable to methyl mercury. The methyl mercury as a per centage of the total mercury

was found to range from 4.7-50.4 per cent in the dentist group and from 1.2-9.0 per cent in the controls.

Edwards and McBride (1975)⁴⁰ produced evidence that microbial flora of the intestine of man has the potential to transform Hg^{2+} into highly toxic methyl mercury and concluded that this could contribute significantly to the methyl mercury burden of the body.

The largest percentage of mercury taken into the body is in the inorganic form which is poorly absorbed by the gastro intestinal tract⁴¹. According to Rowland et al (1977)⁴² based upon a typical intake of "inorganic mercury" contaminated food the average adult could convert by bacterial action some 400 ng/day to methyl mercury.

Rosebush (1982)³⁹ has reported on the presence of organic mercury compounds in the dental office. Phenyl mercury was said to be found in dental operatories which were fully carpeted. Preliminary data from a small sample suggests that there may be a trend for a higher organic mercury level in blood samples of dental personnel who have carpeted dental environments.

Goolvard and co-workers (1979)⁴³ found some six times higher concentrations of methylated mercury in the dental population compared to an age matched control group. It was suggested that methylation of mercury occurs in humans.

Other workers^{40,42} have provided evidence to support the view that methylation of mercury occurs in the gut and elevated blood levels of methyl mercury were also reported in dentists³³.

More recent work^{25,44} at the University of Pennsylvania has diagnosed nerve damage in some 20 per cent of dentists. This correlated with higher than average mercury measurements for these individuals. According to this work the effects of low-level mercury vapour exposure on

human peripheral nerve function are unknown. These researchers measured mercury noninvasively at the skull and wrist of 298 dentists using x-ray fluorescence. Combined skull and wrist mercury levels greater than 40 μg /per gram were found in 19 percent of the dentists.

Peripheral nerve function was studied by standard electro-physiological methods in three sensory and two motor nerves in 23 dentists with the high mercury levels and in an age-matched control group of 22 dentists without detectable tissue mercury. Evidence of polyneuropathy defined as reduced motor or sensory conduction velocities or response amplitudes in two or more nerves was found only in the high-mercury group. The carpal tunnel syndrome was also found only in the high-mercury group, suggesting a special predisposition to local nerve entrapment. The conclusions were that there may be a relationship between tissue mercury accumulation in dentists and peripheral nerve dysfunction.

Conclusions such as this by the University of Pennsylvania researchers emphasize the importance of mercury vapour measurements of dental operatories. We do need to know the extent of the hazard which may lead to such problems as nerve dysfunction.

The most common source of mercury from the dental environment is absorption of vapour via the lungs. The uptake of mercury from the respiratory tract has been investigated by several workers. Experiments on subjects who inhaled air with 100 $\mu g/m^3$ of mercury for seven hours found a constant retention of 76%¹⁴. According to Clarkson (1972)³⁵ elemental mercury vapour undergoes virtually complete absorption across the alveolar membranes in experimental animals and man. The high diffusibility and lipid solubility are characteristics of elemental mercury and should lead to rapid penetration across cell membranes.

AVANT-PROPOS

En dentisterie, on reconnaît depuis plusieurs années les dangers pour la santé associés aux vapeurs de mercure¹⁻²². Ces dangers ne doivent être ni exagérés ni négligés, mais il importe pour la profession dentaire que des études soient faites périodiquement à ce sujet. Bien que les dossiers officiels ne signalent, jusqu'à ce jour, qu'un seul décès causé par le mercure parmi les membres de la profession dentaire, on est en droit de supposer que d'autres personnes souffrent, à divers degrés, d'intoxication par le mercure^{24,25,26}.

Au cours des dernières années, on s'est inquiété de plus en plus des effets toxiques du mercure utilisé à des fins dentaires. On s'est surtout arrêté aux pauvres conditions d'hygiène qui peuvent entraîner l'inhalation et l'absorption de vapeurs de mercure.

Parce que le mercure dégage facilement des vapeurs dans l'air, il peut contaminer le milieu. Quand il s'évapore dans une pièce close, les vapeurs peuvent atteindre rapidement des niveaux de concentration élevés. À 20°C

(68°F), un air saturé de vapeurs de mercure dépasse plus de 200 fois le niveau de concentration maximum permis. À 25°C, le niveau de concentration est de 20mg au mètre cube et correspond à 400 fois le taux maximum recommandé (0,05 mg au mètre cube).

Plus la température ambiante est élevée, plus les vapeurs de mercure se dégagent rapidement. Quand la température d'une pièce passe de 20°C à 25°C, le dégagement des vapeurs de mercure augmente d'un tiers. Si elle passe de 20°C à 30°C, la densité des vapeurs augmente de 131 pour cent; si elle passe de 30°C à 40°C, elle augmente d'un autre 119 pour cent. Et de 40°C à 100°C, la densité augmentera de plus de 4000 pour cent³. Il est donc évident que, pendant la stérilisation des instruments contaminés par le mercure et les amalgames, la concentration des vapeurs de mercure constitue un danger et qu'il faut ranger le mercure et les matériaux contenant du mercure à l'abri de toute source de chaleur. Les fuites de gouttelettes de mercure près des radiateurs, des conduites d'air chaud, des fours, des engins ou des appareils semblables augmente-

ront considérablement les concentrations de vapeur de mercure.

Comme la tension superficielle du mercure est élevée et que sa viscosité est relativement faible à température ambiante, toute goutte perdue se divise, au contact d'une surface, en gouttelettes minuscules très mobiles. Et souvent, ces gouttelettes sont infimes, ne dépassant pas la taille d'un micron. Parce que ce métal liquide se disperse facilement sur une grande surface, même une fuite réduite peut causer une concentration de vapeur de mercure considérable. Il est vrai que les vapeurs de mercure sont inhibées par une oxydation ou une contamination superficielle, mais ce processus est relativement lent. De plus, toute vibration ou tout contact divise à nouveau les infimes gouttelettes, changeant leur surface et les rendant plus volatiles.

Toutefois, le mercure ne devrait pas, normalement, constituer un danger important pour la santé dans les cabinets dentaires. Il suffit de prendre certaines précautions^{16,19,21}. En 1978, l'Association dentaire américaine a publié des recommandations¹⁹ et, en 1979, le Conseil des matériaux et appareils dentaires de l'ADC a également préparé une liste de 18 points à vérifier pour éviter l'empoisonnement par le mercure²⁷.

On ne doit jamais oublier que le mercure, sous la plupart de ces formes, mais surtout comme composé organique, est extrêmement toxique. Il peut pénétrer dans l'organisme par inhalation, par ingestion ou au simple contact de la peau qu'il peut traverser même quand elle est intacte. En dentisterie, les problèmes d'intoxication se produisent souvent par inhalation des vapeurs ou des poussières de mercure. Une fois qu'il a pénétré dans l'organisme, le mercure se dépose dans les tissus après avoir circulé dans le sang pendant quelque temps seulement. C'est pourquoi les prises de sang ne sont guère utiles pour détecter un empoisonnement par le mercure. D'après les recherches effectuées, ce sont les tissus des reins qui dénoteront la plus haute concentration de mercure, ensuite ceux du foie, du spleen et du cerveau^{28,29}. Les formes inorganiques du mercure sont moins bien liées et l'organisme les expulse assez rapidement dans l'urine où l'on peut relever des taux élevés. Les taux de mercure dans l'urine varient beaucoup suivant les conditions et tombent rapidement dès que le sujet n'est plus exposé au mercure.

À la fin des années 1960, on a découvert que le mercure peut, en l'absence d'oxygène, sous l'effet d'une bactérie non identifiée, se transformer en un composé hautement toxique appelé mercure méthylé^{30,31}.

Les composés de mercure méthylé sont beaucoup plus toxiques pour les humains que le mercure simple ou les composés inorganiques. Au cours des 20 dernières années, on a effectué plusieurs recherches sur la transformation biologique du mercure inorganique en des composés organiques beaucoup plus toxiques. En 1974, Mottet et ses collaborateurs indiquaient que les effets biologiques dépendaient de la sorte de composé de mer-

cure inorganique²⁸. Cinq ans auparavant, Ostlund a montré que le mercure diméthylé, contrairement au mercure méthylé, est biologiquement inactif³². Le caractère hautement toxique du mercure méthylé est dû au fait qu'il se déplace facilement dans l'organisme. On dit qu'il est soluble dans les corps gras et qu'il s'allie particulièrement aux tissus du cerveau³³. De fait, du mercure se déplace lentement dans les tissus cérébraux et de grandes concentrations peuvent y demeurer longtemps après que le sujet n'y est plus exposé. En 1971, Burglund et ses collègues ont cité le cas d'une personne décédée dont les tissus cérébraux contenaient de grandes concentrations de mercure, même si elle avait cessé d'être exposée à du mercure simple 13 ans avant son décès³⁴. En 1972, Clarkson prétendait qu'il se peut que le mercure méthylé doive prendre une forme ionique (Hg^{++}) pour devenir actif³⁵.

Les expériences sur les animaux ont démontré que de tels composés de mercure organique se concentrent cent fois plus dans les tissus que les composés de mercure inorganique et qu'environ dix pour cent du mercure organique se loge dans le cerveau. Aussi les composés de mercure méthylé se retrouveront-ils à un taux plus élevé dans les tissus cérébraux. On a démontré que le mercure mono-méthylé et que le mercure mono-éthylé sont tous deux très toxiques, causant des dommages sérieux au système nerveux central, des troubles sensoriels et visuels, l'ataxie et la surdité. Le mercure est un enzyme toxique qui crée une liaison réversible. Après de brèves expositions, le mercure s'éliminera rapidement, sauf dans le cerveau. Dans les cas d'expositions prolongées, on a décelé du mercure dans l'organisme jusqu'à six ans après toute exposition³⁶.

On reconnaît que la demi-vie du mercure méthylé compte de 70 à 74 jours³⁷, alors que la demi-vie du mercure inorganique en compte de 30 à 60³⁸. Lorsqu'on étudie les publications toxicologiques, on s'aperçoit vite qu'on sait très peu de choses touchant les effets des vapeurs de mercure sur un sujet exposé à de très faibles taux de concentration. Sans connaître les taux d'accumulation du mercure dans les différentes parties du système nerveux central, il est difficile de prédire les effets d'une exposition continue à un taux faible de mercure (comme c'est le cas dans le milieu dentaire). Cependant, on sait que le mercure s'accumule dans des organes importants quand l'exposition est prolongée³⁶.

Comme il est possible que des composés toxiques de mercure organique se produisent dans le milieu dentaire³⁹ ou bien que des composés de mercure inorganique se transforment, dans l'organisme^{33,40,42} en des solutions plus toxiques, on comprend mieux les dangers possibles de la pollution par le mercure dans le milieu dentaire. Jusqu'à maintenant, on n'a pas encore prouvé définitivement si les vapeurs de mercure simple dans le milieu dentaire causent une augmentation marquée du mercure méthylé dans l'organisme. En 1978, toutefois, Cross et

ses collaborateurs ont fait état d'expériences démontrant que les vapeurs de mercure inhalées par les dentistes se transforment partiellement en mercure méthylique dans leur organisme³³. Pour les dentistes, la quantité de mercure inorganique et organique (ng/g — poids sec du sang) variait de 67 à 518, alors que celle d'un groupe témoin variait de 100 à 154. L'analyse statistique indiquait une différence importante entre les dentistes et le groupe témoin ($P < 0,005$) pour la quantité de mercure simple et de mercure méthylique et pour le taux de mercure méthylique par rapport à la quantité totale de mercure. À la suite de ces observations, on a pensé que, chez les dentistes et les autres personnes exposées aux vapeurs de mercure, l'accumulation chronique de mercure pouvait être causée par le mercure méthylique. De la quantité totale de mercure, le mercure méthylique représentait de 4,7 à 50,4 pour cent chez les dentistes et seulement de 1,2 à 9 pour cent chez les personnes du groupe témoin.

En 1975, Edwards et McBride ont démontré que la flore microbienne des intestins pouvait transformer le Hg^{2+} en mercure méthylique très toxique et ont conclu que ce facteur pouvait contribuer grandement à taxer l'organisme⁴⁰.

Le plus grand pourcentage du mercure qu'absorbe l'organisme est sous une forme inorganique que le système gastro-intestinal absorbe mal⁴¹. En 1977, Rowland et ses collaborateurs ont démontré que l'adulte moyen qui consomme une quantité normale d'aliments contaminés par du "mercure inorganique" pouvait en transformer, par un effet microbien, environ 400 ng par jour en mercure méthylique⁴².

En 1982, Rosebush signalait la présence de composés de mercure organique dans les cabinets dentaires³⁹. On a découvert du mercure phénylique dans les cabinets dentaires dont les planchers étaient entièrement recouverts de tapis. D'après des données préliminaires, on croit qu'il pourrait y avoir un taux plus élevé de mercure méthylique dans le sang prélevé sur des personnes travaillant dans un cabinet dont les planchers sont couverts de tapis.

En 1979, Goolvard et ses collègues ont relevé, chez des gens du milieu dentaire, des concentrations de mercure méthylique six fois supérieures à celles d'un groupe témoin dont les membres étaient du même âge. Aussi croient-ils que la méthylation du mercure se produit dans l'organisme humain⁴³.

D'autres chercheurs ont soutenu le même point^{40,42} et signalé des taux élevés de mercure méthylique dans le sang des dentistes³³.

À l'Université de la Pennsylvanie, des travaux plus récents ont établi qu'environ 20 pour cent des dentistes souffrent de troubles nerveux^{25,44}. Ce fait correspondait à des taux de mercure supérieurs à la moyenne. Cependant, ces travaux ne précisent pas les effets d'une exposition à des vapeurs de mercure de faible densité sur le système nerveux périphérique. Les chercheurs ont mesuré les taux de mercure dans le cerveau et les poignets de 298 dentistes en utilisant des appareils radiographiques à fluorescence. Dans 19 pour cent des cas, ils ont relevé des taux supérieurs à 40 ug par gramme.

En utilisant des méthodes électro-physiologiques normalisées, on a étudié, à partir de trois nerfs sensoriels et de deux nerfs moteurs, le fonctionnement nerveux périphérique de 23 dentistes possédant des taux de mercure élevés en les comparant à un groupe témoin de 22 dentistes dont les âges étaient identiques et chez qui on n'avait pas détecté de mercure. Seuls, les membres du premier groupe souffraient de polyneuropathie qui se caractérise par une atteinte sensitivomotrice de deux nerfs ou plus. Ceux-ci étaient encore affligés du syndrome du canal carpien et semblaient sujets à des pincements de nerf locaux. Les chercheurs ont donc conclu qu'il peut y avoir un lien entre l'accumulation du mercure dans les tissus et le dysfonctionnement des nerfs périphériques.

Des études comme la précédente soulignent l'importance de mesurer les quantités de vapeur de mercure qui se trouvent dans les cabinets dentaires. Nous devons connaître l'étendue des dangers qui peuvent causer des problèmes comme le dysfonctionnement nerveux.

Dans le milieu dentaire, le danger le plus commun est l'absorption de vapeurs de mercure par les poumons. De nombreux chercheurs ont étudié cette question. Ainsi, des sujets qui ont respiré durant sept heures un air contenant 100 ug de mercure au mètre cube en ont retenu 76 pour cent¹⁴. Selon Clarkson, les vapeurs de mercure simple sont presque toutes absorbées par les membranes alvéolaires des hommes et des animaux³⁵. Le mercure simple possède un grand pouvoir de diffusibilité et de solubilité dans les lipides. Aussi pénètre-t-il rapidement les membranes cellulaires.

THE ATLANTIC SURVEY

The Council on Dental Materials and Devices of the Canadian Dental Association recommended in November 1980 that a pilot study of mercury vapour measurements be conducted in the Atlantic region of Canada. This study was conducted by the Division of Dental Biomaterials Science, Dalhousie University, between July 1981 and March 1982, with a total of 375 dental operatories being surveyed. This involved some 3,750 individual mercury vapour measurements being made. Samples of hair and nails were also collected from dentists and dental assistants for analysis.

The Dalhousie University study had three separate components:

- a) Measurement of atmospheric mercury by ultraviolet photometry.
- b) Analysis of hair and nail samples by atomic absorption.
- c) Questionnaire on mercury usage.

Since the main source of mercury exposure for dental personnel is atmospheric mercury vapour, monitoring of the dental operatories must be one of the first steps in any mercury hazard survey. This can be performed rapidly with a portable mercury detecting instrument. The use of ultraviolet photometry (Bacharach mercury vapour sniffer) allows an immediate reading to be obtained and permits several areas in close proximity to be measured and compared in a short space of time. However, it is important to recognize that a spot check of the atmospheric level of elemental mercury vapour in a dental office does not indicate how much mercury has left the lungs and has gradually concentrated in nerve tissue, kidney, liver, spleen, central nervous system or the brain. Such measurements do give some indication of the level of risk involved, and may indicate the need for changes in technique, conditions or equipment.

Kantor and Woodcock (1981)²² have discussed the limitations and drawbacks to the use of peak (spot check) mercury vapour readings near to a surface as a measure of contamination. It is clear that such data does not relate to the number or location of sites contaminated, or to the quantity of free mercury on the surface. Such measurements are complicated by variable rates of vaporization depending upon the size of droplets or how recently the surface of such droplets has been disturbed. Kantor and Woodcock (1981)²² also made the important point that the use of the highest value which may be obtained by searching around the operatory is the least accurate statistical estimate of the mercury vapour present. For this reason in the present study measurements of mercury vapour were made at ten specific predetermined locations in the operatory.

In the present study samples of hair and nails were also obtained in order to provide further evidence of environmental mercury pollution. One advantage of this is that

hair can provide a measure of the average blood level of mercury for a growth period of several weeks. The results of this analysis will be presented in a future publication.

The average dentist performs some eight amalgam fillings per day and spends about 50 per cent of his total time in amalgam-related procedures. The main mercury pollution problems are associated with trituration procedures or a spillage of mercury. However, it should be realized that mercury emission can also occur during the condensation⁴⁵⁻⁴⁷, as well as during polishing or cutting of amalgam⁴⁸. The possible danger of mercury vapour from hot air sterilization of instruments has been emphasized⁴⁹.

The Threshold Limit Value or T.L.V. for atmospheric mercury has been set by the Occupational Safety and Health Administration at 0.05 mgHg/m³ of air. This represents the airborne concentration over an eight hour day with no adverse effects on health. The TLV value is based upon a time — weighted average (TWA) concentration. In such a situation the TLV of 0.05 mg/m³ may be exceeded momentarily a number of times a day, but the average TLV, based upon an eight hour TWA, may be considerably below the TLV. The TLV was reduced from a more permissive 0.1 mg/m³ in 1973. The TLV for mercury is thus some half a million times higher than the value for mercury found in normal 'fresh air'.

The 'Health Hazard' from mercury vapour is defined as exposure to concentrations of inorganic mercury greater than 40 per cent above TLV, that is greater than 0.07 mg/m³. Thus the "Health Hazard Risk" is set at 700,000 times normal 'fresh air' value. The National Institute for Occupational Safety and Health have a lower and more restrictive T.L.V. of 0.02 mg/m³.

METHOD

In the survey, 139 offices were visited in the New Brunswick, 58 in Newfoundland, 146 in Nova Scotia and 32 in Prince Edward Island, for a total of 375 in the Atlantic region.

It should be remembered when interpreting the data as being truly representative that, although the response represents something of the order of 50 per cent of the practitioners in Atlantic Canada, they were in fact all volunteers.

Ten specific predetermined locations were measured* in each operatory:

- 1) 'General measurement' in vicinity of the chair at the height of the chair.
- 2) Curtains if present.
- 3) Room heaters — or humidity units.
- 4) Sink and/or saliva ejector.
- 5) Mercury/alloy storage area.
- 6) Area used for trituration.

*(Note: data for all of the measurements of mercury vapour for the various areas evaluated are given in Appendix. This data is given in total for the Atlantic region. Copies of the data for the individual provinces of New Brunswick, Newfoundland, Nova Scotia and Prince Edward Island are available on request from the CDA Journal.

- 7) Location of amalgamator (running for 20 sec.).
- 8) Waste container — scrap (open).
- 9) Waste container — scrap (closed).
- 10) Vacuum cleaner (dust bag).

A Bacharach (Mercury Sniffer) instrument was used in the study. This instrument provided a semi-quantitative measurement of elemental mercury vapour in the air. Elemental mercury vapour is mono-atomic and absorbs electromagnetic radiation of certain resonant wavelengths. The instrument contains a mercury arc lamp, a gas absorption cell and a photo multiplier or photo tube. The level of mercury in the air pumped through the gas cell is read directly on the meter which has a dual range full scale of 0.2 or 1.0 mg/m³ (detection sensitivity <0.01 mg/m³). The instrument was calibrated at regular intervals during the survey.

Each dentist was asked to complete a questionnaire on mercury usage. The questionnaire asked about the type of air ventilation, the size (volume) of the operatory, the type of floor covering, the amount of mercury and alloy used each year, the type of alloy or system — whether bulk powder, bulk pellets or precapsulated, the type of condensation method used, whether hand or mechanical. Information on the type and number of amalgamators with or without covers was requested as well as details of the method of storage used for scrap.

The data provided in the questionnaire enabled comparisons of levels of mercury pollution with certain techniques, conditions or equipment.

A good rapport was maintained with the dental profession during the survey and the project turned out to be a good educational exercise. Many dentists and dental assistants changed their methods and equipment in order to improve their level of mercury hygiene. For example, a

few dentists were found to be storing mercury or scrap amalgam in a hot zone above sterilizers. Advice to change such practices was readily heeded as were suggestions relative to the storage of scrap amalgam in open or dry containers.

RESULTS AND DISCUSSION

The number of amalgam restorations undertaken during the 24 hour period prior to the mercury vapour measurements are shown in **Figure 1**. Out of 375 operatories evaluated 47.5 per cent had undertaken between 4 — 12 amalgam fillings, 35 per cent less than four fillings and 17.3 per cent twelve or more fillings. The mean value being 8.0 ± 7.7 fillings. No significant correlation was found between the number of restorations produced in each of these groups and the mercury vapour values obtained.

The percentage of readings ≥ 0.05 mgHg/m³ for the ten specific locations measured are shown in **Table I**. As can be seen by far the greatest problem is in the areas of the vacuum cleaner dust bag, the waste container open, the location of the amalgamator following running for 20 seconds, and the interior of the Dentomat amalgamators.

General Samples

Mercury vapour measurements in the general location of dental chair (general sample) are shown in **Figure 2**. Some 40.5 per cent of measurements were found to be less than 0.01 and 56.3 per cent were between 0.01 — 0.049 mg/m³, only 2.9 per cent were between 0.05 — 0.99 and only 0.3 per cent were ≥ 0.10 mg/m³. Thus just over 3 per cent of the measurements were ≥ 0.05 mgHg/m³ air. The same data for general sample measurements taken in the location of the dental chair as illustrated in **Figure 2** for the total population, have also been analysed under specific groupings. The general sample measurements were used to determine the effect of type of floor cover-

Table I

		% Values ≥ 0.05 mgHg/m ³				
SAMPLE	LOCATION MEASURED	Atl.	Nfld.	N.B.	N.S.	P.E.I.
1)	General sample in location of dental chair	3	3	3	4	0
2)	Curtains if present	4	0	3	6	0
3)	Room heaters or humidity control unit	4	4	4	3	0
4)	Sinks, traps or saliva ejector	5	7	6	4	3
5)	Mercury/alloy storage area	13	2	15	15	15
6)	Area used for trituration	16	7	19	16	16
7a)	Close proximity amalgamator (following 20 sec. running)	43	22	42	48	52
7b)	Interior of Dentomat (amalgamator)	77	87	90	39	80
8)	Location of used capsules	14	11	18	12	20
9a)	Waste container scrap (closed)	8	0	0	7	10
9b)	Waste container scrap (open)	56	43	62	52	68
10)	Vacuum cleaner (dust bag)	70	72	64	71	100
Number of measurements made (n) for General Sample #1		375	58	139	146	32

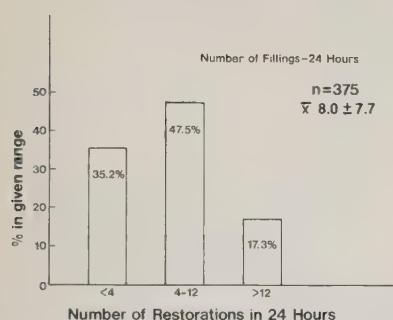


Figure 1. This bar diagram illustrates the number of amalgam restorations undertaken in the operator during the 24 hour period prior to the mercury vapour measurement.

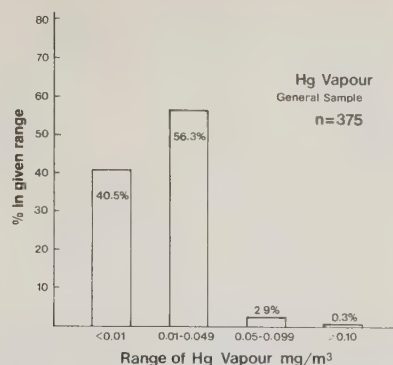


Figure 2. This bar diagram illustrates the mercury vapour measurements in the general location of the dental chair (general sample).

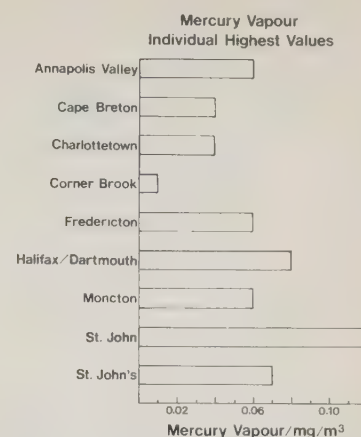


Figure 3. This bar diagram illustrates the highest individual 'general sample' measurements on the particular day of sampling for each of the nine regions visited.

ings, covers on amalgamators, or the use of packaging of alloy in the form of pellets, powder or disposable capsules.

A bar diagram showing the highest individual general sample measurements for each of the nine regions visited is shown in **Figure 3**. As can be seen, the highest individual general sample value recorded was a measurement made at St. John, New Brunswick which was 0.12 mg/m³. The individual dentist in this operator had undertaken 11 amalgams in the past 24 hours and was using a five year old Silamat with re-usable Caulk screw type capsule. The operator had carpeting and the scrap was not collected.

Floor Covering

In response to the section of the questionnaire dealing with floor coverings some 55 per cent of the operatories were said to have carpets, 34 per cent linoleum sheet and 10.4 per cent linoleum tiles. Clearly the installation of carpeting in operatories is still very fashionable. As shown in **Figures 4, 5 and 6**, the mercury vapour levels for those operatories with carpets exhibited fewer measurements in

the <0.01 range than for the linoleum sheet or tile. The data for the operatories with carpets (**Figure 4**) shows some eight per cent with measurements at or above 0.05 mgHg/m³, this can be contrasted with only three per cent at or above this value for the total data as illustrated in **Figure 2**. The linoleum sheet (**Figure 5**) and tiles (**Figure 6**) gave slightly better results than for operatories using carpets with fewer measurements at the higher levels.

The data for linoleum sheet gave some three per cent of the readings at or above 0.05 mgHg/m³, while in the case of linoleum tiles no readings were at or above 0.05 mgHg/m³. The floors with linoleum tiles would be expected to be worse than linoleum sheet. However, as can be seen the operatories with tiles had no values of 0.05 mgHg/m³ or above and so produced the lowest levels of mercury vapour measurements. In general the data would seem to support the work of previous investigators that no strong correlation exists between the type of floor covering of operatories and mercury vapour measurements in the general location of the dental chair. However, it is

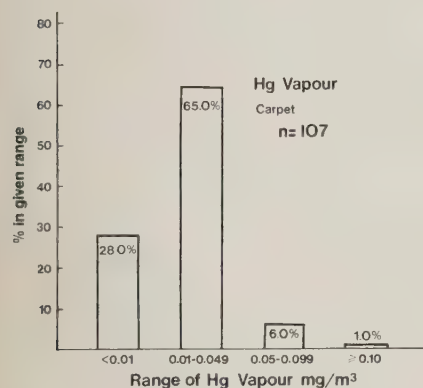


Figure 4. This bar diagram illustrates the mercury vapour measurements (general sample) for those operatories with carpets.

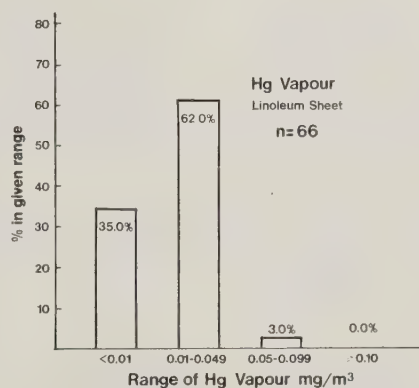


Figure 5. This bar diagram illustrates the mercury vapour measurements (general sample) for those operatories with linoleum sheet as a floor covering.

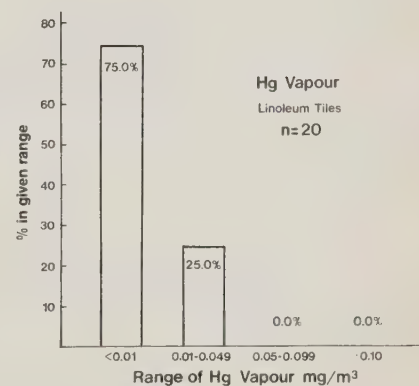


Figure 6. This bar diagram illustrates the mercury vapour measurements (general sample) for those operatories with linoleum tiles as a floor covering.

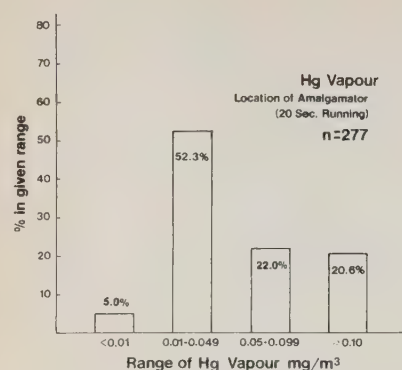


Figure 7. This bar diagram illustrates the mercury vapour measurements made in 'close proximity' to the amalgamator following running the machine for 20 seconds with no capsule in place.

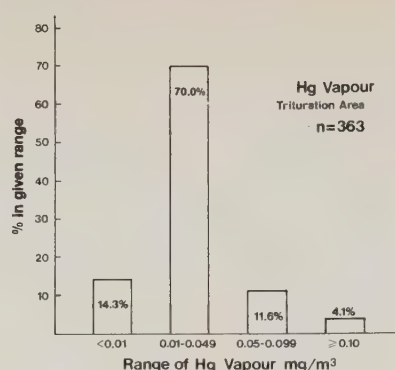


Figure 8. This bar diagram illustrates the mercury vapour measurements made in the general area used for trituration.

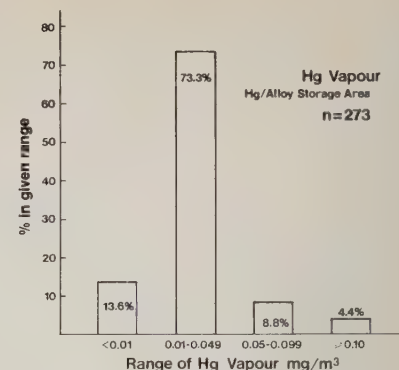


Figure 9 This bar diagram illustrates the mercury vapour measurements made in the area used for mercury and alloy storage.

clear from the larger number of measurements above the 0.05 mg/m³ level obtained for those operatories with carpets that there is a potential problem with this type of floor covering.

A study of 72 dental offices reported⁵⁰ that the level of mercury vapour close to the floor near to the amalgamator was significantly higher for carpeted floors compared to noncarpeted floors. The same report indicated however, that for measurements made in other specific locations of the operatories there was no difference between floor coverings. Another study⁴⁷ using blood mercury levels concluded that no distinction could be made between carpet and tile covered floors relative to individuals with elevated mercury levels. However, Rosebush (1982)³⁹ has indicated that blood levels of organic mercury may be related to carpeted flooring. Eames et al (1976)⁵² have also claimed that mercury vapour levels were not related to carpeting. A more recent study of 1,064 rooms by Kantor and Woodcock in 1981²² also concluded that no significant difference could be found in the ambient breathing zone concentrations of mercury vapour for offices with carpets rather than seamless plastic flooring.

Amalgamator

Many studies have been made of mercury leakage during trituration⁵³⁻⁵⁶. Studies have shown^{55,56} that the average mercury leakage from reusable capsules is double that for the disposable type. Measurements in the present study made in close proximity to the amalgamator (Figure 7), following running of the machine for 20 seconds with no capsule in place, indicated that over 20 per cent of the 277 measurements were ≥ 0.10 mgHg/m³. Only 5 per cent of the measurements were below 0.01 mgHg/m³. Over 52 per cent of these measurements were between 0.01 and 0.049 mgHg/m³.

Some 70 per cent of the measurements made in the general area of trituration were between 0.01 and 0.049 mgHg/m³; and 4.1 per cent were at or above 0.10 mgHg/m³. This data is illustrated in the bar diagram in Figure 8. These measurements can be compared with the

data for measurements made in the area used for mercury and alloy storage (Figure 9) and for measurements made of the locations in which used capsules were found (Figure 10). As can be seen very similar results were obtained for the three locations.

Some 39 per cent of the amalgamators had covers. Some 15 per cent reported that the entire amalgamator was covered. On further investigation this was found to mean that it was located in a drawer or cupboard. The average age of the amalgamators in the survey was 6.4 ± 5.7 years. As listed in Table II the amalgamators most commonly used were Silamat, Caulk Varimix, Dentomat and Wig-L-Bug. The general mercury vapour measurements in operatories using amalgamators with and without covers or the Dentomat machine are illustrated in the bar diagrams Figures 11, 12 and 13. A higher percentage of readings at higher ranges of mercury vapour were observed for the operatories using amalgamators without

Table II

Amalgamators (n = 177)	
	%
Without cover	46
With cover	39
Entire amalgamator covered	15
Age of amalgamator	6.4 ± 5.7 years.
Type of Amalgamator (n = 188)	
	%
Caulk Varimix	26
Dentomat	21
Silamat	29
Wig-L-Bug	16
Other	7

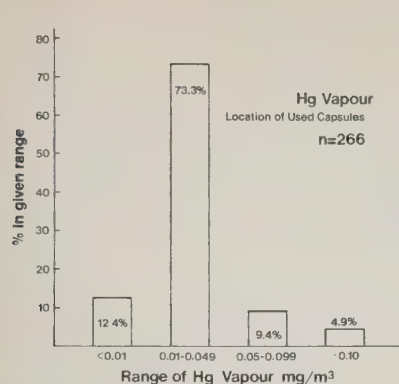


Figure 10. This bar diagram illustrates the mercury vapour measurements made in the locations in which used disposable capsules were found.

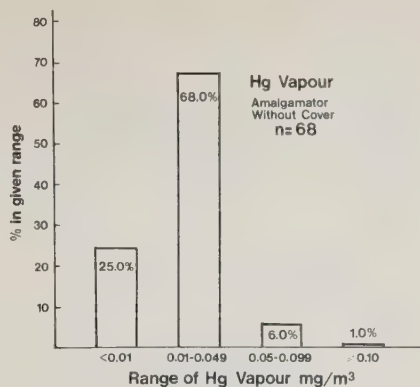


Figure 11. This bar diagram illustrates the mercury vapour measurements (general sample) made in those operatories using amalgamators without covers.

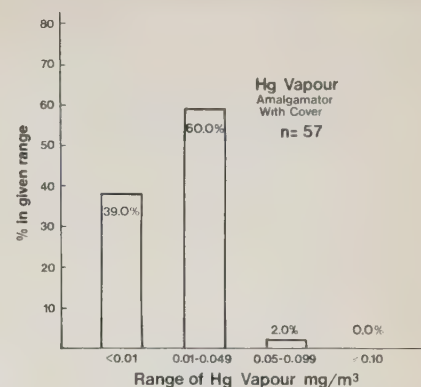


Figure 12. This bar diagram illustrates the mercury vapour measurements (general sample) made in those operatories using amalgamators with covers.

covers (Figure 11). In contrast lower values were obtained for operatories using the amalgamators with covers (Figure 12) and for the operatories using Dentomat machines (Figure 13).

The trend towards the use of "no touch" encapsulated mercury is still rather slow since only 19 per cent were found to be using disposable capsules. It would seem that for economic reasons many dentists prefer to use the reusable capsules.

According to the data obtained from the survey (Table III) some 21 per cent claimed to be using alloy powder, 19 per cent disposable capsules and some 60 per cent pellets. This would indicate that 81 per cent were using re-usable capsules. However, many undoubtedly were using more than one system. The general mercury vapour measurements made in operatories using different systems are shown in Table IV. This data would seem to suggest that the use of the disposable capsules results in less mercury pollution. The mean values for those using pellets (re-usable capsules) was 0.02 ± 0.02 ($n=119$) while the measurements for those using the disposable capsules was 0.01 ± 0.01 ($n=38$). The general mercury vapour measurements in operatories related to the type of packaging whether alloy powder, pellets or premeasured disposable capsules are also shown in Figure 14, 15 and 16. The measurements for those operatories using alloy pellets (Figure 14) shows that eight per cent of the measurements were at 0.05 mgHg/m^3 or above. The values for operatories using premeasured disposable capsules (Figure 15) shows no measurements $\geq 0.05 \text{ mgHg/m}^3$. The same can also be seen for those operatories using alloy powder (Figure 16) the vast majority of which would be using Dentomat amalgamators.

This supports the findings of others. For example Harris et al in 1978²⁴ studied the mercury uptake by dental personnel by means of urinary levels of mercury. The single most important variable which produced a correlation was found to be the use of either bulk or encapsulated mercury. 'Normal' urinary mercury levels were found in

Table III

Type of alloy packaging (n = 182)

	%
Alloy powder	21
Alloy pellets	60
Pre-measured disposable capsules	19

(Note: 81 per cent use re-usable capsules)

Table IV

Mercury vapour levels in operatories:

System used	Mean $\pm$ s.d. mgHg/m ³	n	% $\geq$ 0.05 mgHg/m ³
Pellets	0.02 ± 0.02	119	8.0
Disposable capsules	0.01 ± 0.01	38	0
Dentomat	0.01 ± 0.01	37	0
Mechanical condensers	0.01 ± 0.02	45	6.7
Hand condensers	0.01 ± 0.02	136	0
Quantity of Hg used per year			
a) < 10 lbs. Hg/yr	0.02 ± 0.02	108	8.3
b) > 10 lbs. Hg/yr	0.01 ± 0.01	13	0
★ Scrap containers			
a) under water	0.10 ± 0.15	32	47
b) no storage medium	0.18 ± 0.24	155	62

★ Mercury vapour measurements made just above container. All other values in Table IV are the "General sample taken in the location of the dental chair."

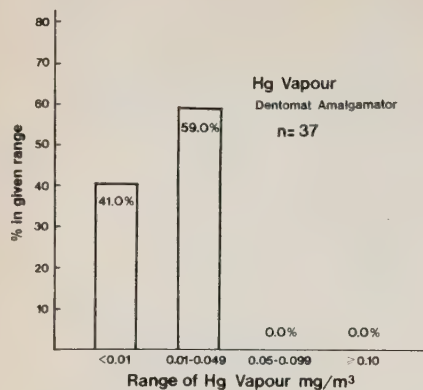


Figure 13. This bar diagram illustrates the mercury vapour measurements (general sample) made in those operatories using the Dentomat amalgamators.

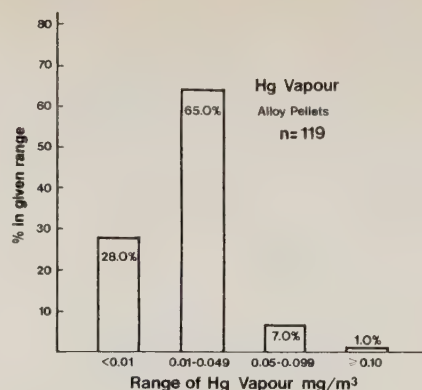


Figure 14. This bar diagram illustrates the mercury vapour measurements (general sample) made in those operatories using alloy in the form of pellets.

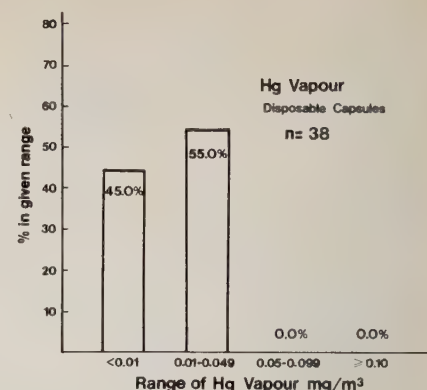


Figure 15. This bar diagram illustrates the mercury vapour measurements (general sample) made in those operatories using the premeasured disposable capsules.

62.5 per cent of individuals working with encapsulated mercury. In contrast only 37.5 per cent of those handling bulk mercury were said to have 'normal' urinary mercury levels.

The general sample readings for the Dentomat users produced a similar mean value to the data for disposable capsules 0.01 ± 0.01 ($n=37$). No difference is indicated between the mean values for mechanical and hand condensers. Such procedures would likely only produce a localized effect and would be less likely to influence the general sample readings. However, it is interesting to find (as shown in Table IV) that almost seven per cent of the general samples for mechanical condensers were ≥ 0.05 mgHg/m³ whilst only four per cent of the operatories using hand condensers were ≥ 0.05 mgHg/m³.

Scrap Containers

Some 96 per cent of the respondents claimed to be collecting scrap amalgam. As indicated in Table V, 18 per cent stored the scrap under water, six per cent used spent x-ray fixer whilst 76 per cent stored the scrap dry. Some 85 per cent stored the scrap in the operatory. Some 55 per cent of the respondents stated that they returned scrap for recycling once a year and some 13 per cent stated

that they returned scrap twice a year. The full details of frequency of scrap disposal are reported in Table VI. Mean mercury vapour values for 'General Sample' (Table IV) for scrap (a) stored under water 0.10 ± 0.15 ($n=32$) can be compared with (b) scrap stored in air 0.18 ± 0.24 ($n=155$). Howard et al (1981)⁵⁷ have demonstrated the advantage of using spent x-ray fixer as a storage medium for scrap amalgam. This clearly indicates the need to avoid storing scrap in the dry condition.

In our study it was found that some 60 per cent of the scrap containers did not have lids. The measurements made in close proximity to the containers with the lids closed indicated that almost six per cent were in the range of 0.05-0.099 mgHg/m³, and just over two per cent were at or above 0.1 mgHg/m³. Measurements made in close proximity to 354 containers open (without lids) indicated that 35% of the readings were ≥ 0.10 mgHg/m³. A comparison between containers with and without lids can be seen in the bar diagrams Figures 17 and 18.

Office Cleaning

Measurements made of the dust bags of 106 vacuum cleaners indicated that over 57 per cent of the values were at or above 0.1 mgHg/m³. This is illustrated in the bar diagram (Figure 19). Some 12 per cent of the values were between 0.05-0.099 mgHg/m³, whilst only 3.8 per cent were less than 0.01 mgHg/m³.

Frequency of office cleaning varied from daily (52 per cent) to once in three weeks (one per cent) as shown in the data Table VII.

Measurements taken in the area of sinks or saliva ejector indicated that over five per cent of the values were ≥ 0.05 mgHg/m³ and over 50 per cent were between 0.01-0.049 mgHg/m³. This data is illustrated in the bar diagram Figure 20.

The Effect of Number of Amalgam Procedures

All readings of mercury vapour for the various locations in the operatory for 10 operatories (2.7 per cent of

Table V

Amalgam Scrap Storage (96 per cent collected scrap)

	%
Under water	18
Under x-ray fixer	6
Dry	76
Location of Scrap	
In operatory	85
Outside operatory	15

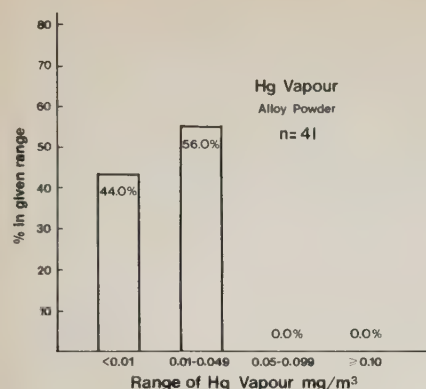


Figure 16. This bar diagram illustrates the mercury vapour measurements (general sample) made in those operatories using alloy in the form of powder. The majority of those using powder would also be using the Dentomat amalgamator.

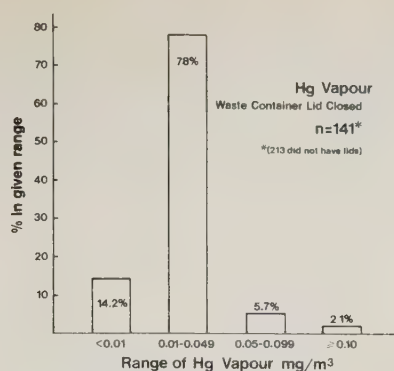


Figure 17. This bar diagram illustrates the mercury v. measurements made in 'close proximity' to sc, containers with the lid closed. *Note 213 of the 354 containers did not have lids and were not included in this measurement.

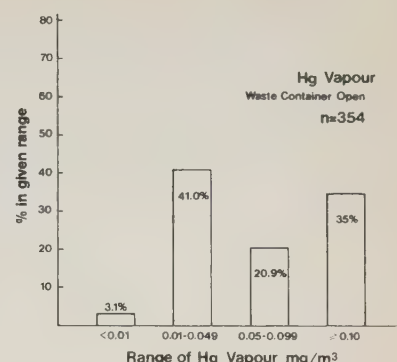


Figure 18. This bar diagram illustrates the mercury vapour measurements made in 'close proximity' to scrap containers open without any lid. *Note of the 354 containers 213 did not have lids provided and thus were always in the open condition.

Table VII

Frequency of Office Cleaning	(n = 174)
	%
Daily	52
Weekly	25
Bi-weekly	14
Tri-weekly	7
Every 2 weeks	0.6
Every 3 weeks	1

total) reporting 30 or more amalgam procedures in the past 24 hours were in excess of 0.01 mgHg/m³.

All of the general samples taken in the location of the dental chair for the 10 operatories were between 0.01 and 0.049 mgHg/m³. Thus none of them were above the 0.05 mgHg/m³ limit (Table VIII). However, it should also be noted from the above that no readings were less than 0.01 mgHg/m³, whereas in the full data for the Atlantic region over 40 per cent were found to be less than 0.01 mgHg/m³.

For the 10 operatories (≥30 amalgam procedures) readings taken at the location of sinks, traps or saliva ejector again none were less than 0.01 mgHg/m³ while, for full data (n=371) some 43 per cent were less than 0.01 mgHg/m³. Six of the eight readings for this location were between 0.01-0.049 and two were in excess of 0.1. Only three readings out of the full data (n=371) for the Atlantic region were in excess of 0.1 mgHg/m³. All of the vacuum cleaner dust bags from these ten operatories (n=5) gave values in excess of 0.1 mgHg/m³.

Comparisons between the mean values for the various measurements made for the 2.7 per cent who had 30 or more amalgam procedures in the previous 24 hours with the complete data for the Atlantic region are shown in

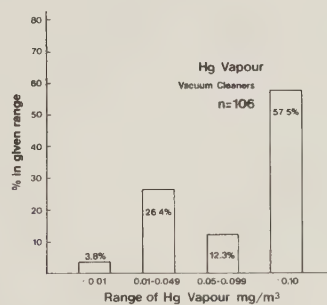


Figure 19. This bar diagram illustrates the mercury vapour measurements made in 'close proximity' to the dust bags of vacuum cleaners.

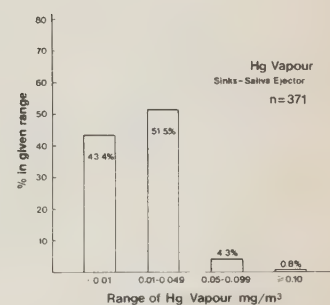


Figure 20. This bar diagram illustrates the mercury vapour measurements made in 'close proximity' to sink or saliva ejector drainage points.

Table VIII. The main areas producing higher readings were found to be (4) sinks, traps, saliva ejectors, (7) Amalgamator running, and (10) vacuum cleaner dust bag.

Table VI

Frequency of Scrap Disposal	(n = 164)
Scrap sent to be recycled every:—	%
Never	3.6
Don't know	7.9
4 months	3.0
6 months	13.0
1 year	55.0
2 years	8.5
3 years	4.8
5+ years	3.0
when scrap prices are high	1.2

This would seem to suggest that heavy activity in the recent past would give higher readings for measurements in these areas. It should be noted that dentists very often will designate certain days for amalgam procedures. This in part explains some of the very high numbers of restorations reported for some practitioners. The mean number

for the 10 dentists who had undertaken 30 or more amalgam procedures was 36.3 ± 8.1 . Analysis of mercury vapour measurements in operatories relative to the amount of mercury claimed to be purchased each year by the participants responding to the questionnaires did not give any correlation as shown in **Table IX**.

Table VIII

**Comparison of Mercury Vapour $\text{mg}/\text{m}^3 \geq 30$
Amalgams vs. Full Data**

	30 or more Amalgam Procedures in 24 hrs.				Full Atlantic Region Data			
	$n \geq 0.05$ mgHg/m^3	$\bar{x}$	sd	n	$\% \geq 0.05$ mgHg/m^3	$\bar{x}$	sd	n
1. General sample location of chair	0	0.02	0.01	10	3	0.01	0.02	375
2. Curtains	0	0.01	0.01	9	4	0.01	0.01	282
3. Room heaters	0	0.01	0.09	9	4	0.01	0.01	318
4. Sinks, traps, saliva ejectors	2	0.06	0.08	8	5	0.01	0.03	371
5. Mercury/alloy storage area	0	0.05	0.07	7	13	0.03	0.04	273
6. General area location trituration	1	0.03	0.02	10	16	0.03	0.06	363
7. Amalgamator running 20 seconds	6	0.15	0.22	12	43	0.09	0.15	277
8. Location capsules	3	0.06	0.06	8	14	0.03	0.38	266
9. a) Scrap (open)	8	0.14	0.18	10	56	0.16	0.23	354
b) Scrap (closed)	0	0.03	0.01	3	8	0.02	0.03	141
10. Vacuum cleaner (dust bag)	5	0.89	0.25	5	70	0.39	0.41	106
11. Amalgam procedures in past 24 hours	—	36.3	8.1	10	—	8.0	7.7	375

Table IX

Amount of Mercury Purchased per Year

Amount lbs.	Range mgHg/m^3	n	% in range
1 — 2	< 0.01	11	30
	0.01 — 0.049	22	59
	0.05 — 0.099	3	8
	≥ 0.10	1	3
3 — 4	< 0.01	9	21
	0.01 — 0.049	30	71
	0.05 — 0.099	3	7
	≥ 0.10	0	0
5 — 6	< 0.01	13	42
	0.01 — 0.049	16	52
	0.05 — 0.099	2	6
	≥ 0.10	0	0
> 8	< 0.01	4	24
	0.01 — 0.049	13	76
	0.05 — 0.099	0	0
	> 0.10	0	0

Years of Practice

The measurements for general mercury vapour in operatories relative to the number of years which the dentists had been in practice are shown in **Table X**. The average mercury vapour measurements were higher for the more senior dentists.

Office Space

The overall mean size of the dental office as reported in the questionnaire data was 940.3 ± 590.4 square feet. The mean ceiling height obtained was 8.59 ± 1.00 feet. The mean volume of office space was 8076.9 cubic feet (or 228.7 m^3). The mean number of operatories per office complex was 2.66 ± 1.30 . Due to the difficulty of interpreting the variable data reported for office space, no attempt was made to correlate the mercury levels for the different sized operatories. Details of the office space are presented in **Table XI**. Some 12.5 per cent of the offices were said to be located in the home. Over 40 per cent had ventilation individual for each operatory and over 67 per cent claimed to have external opening windows in the operatory whilst only 10 per cent indicated the absence of external windows in either operatory or office complex.

Table X**Number of Years Dentist has been in Practice**

(General mercury vapour in operatories)

No. Yrs.	n	Average	Range	mgHg/m ³ Number Values ≥ 0.05	Number Values ≥ 0.03	Number Values = 0.00
< 10	47	0.01 ± 0.01	0.0 — 0.04	0	5	22
10 — 19	58	0.01 ± 0.01	0.0 — 0.04	0	2	12
20 — 29	30	0.02 ± 0.02	0.0 — 0.05	1	5	7
30 — 39	28	0.02 ± 0.02	0.0 — 0.07	3	4	9
40 — 49	2	0.04 ± 0.04	0.01 — 0.06	1	1	0
≥ 50	2	0.04 ± 0.05	0.0 — 0.07	1	1	1

Table XI**Dental Office Space**

Location (n = 175)	%
Home	12.5
Downtown	66.3
Shopping Plaza	1.7
Other	19.4
Type of Ventilation System (n = 161)	
Individual for each operatory	42
Complete throughout office building	39
Don't know	29
Does room exhaust system recycle air (n = 173)	
Yes	17.9
No	68.0
Don't know	14.4
Air Conditioner (n = 180)	
None	33.3
Individual operatory	40
Throughout building	26.7
External Opening Windows Present (n = 240)	
In operatory	61.7
In office building	28.7
None	10
Overall mean size of dental office volume = 228.7m ³ (n = 178) Mean number of operatories/office = 2.66 (n = 183)	

Table XII**Protective Measures**

	Dentists		Assistants	
	Yes	No	Yes	No
Monitoring device used	0.75%	—	—	—
Tested for mercury levels in body *(see Table XIII)	10%	—	—	—
Is specific mercury clean-up method used	56%	43%	—	—
Inhalation protection used	—	—	9% (n=172)	91% (n=166)
Rubber gloves worn	—	—	4% (n=73)	96% (n=68)

Protective Measures

As shown in **Table XII**, our survey indicated that only 56 per cent had got a specific clean up method in the event that a spillage of mercury might occur. Although not

Continued on next page

specifically asked, 20 per cent also indicated that they had never had a spillage. A mere 0.75 per cent claimed to be using a personal monitoring device for mercury exposure.

Only ten per cent had been tested for mercury levels in the body, the various methods used are indicated in **Table XV**. Inhalation protection was only used by nine per cent of dentists and five per cent by assistants and only four per cent of the dentists and assistants wore rubber gloves when handling amalgam and mercury.

The protective measures taken (**Table XII** and **XIII**) indicated that further emphasis needs to be placed upon this aspect in the education of dentists, hygienists and assistants.

Dental personnel should be aware that organic compounds of mercury easily pass the placenta and accumulate in the fetus⁵⁸. For other mercury compounds the placenta constitutes a relatively effective barrier. The possibility of significant genetic effects caused by organic mercury compounds cannot be ruled out. The possibility of postnatal exposure through breast milk has also been indicated. Personnel should ensure that all available recognized protective measures are taken.

Significance

While the data we have produced may not give cause for alarm, we should be aware that research has shown that methylated mercury may be produced by micro-organisms in the gut^{33,40,42,43}.

Some authorities state that it is not possible to give the lowest concentration of mercury which may give rise to some medical manifestations. According to data from the USSR and USA³⁶ as little as 0.05 or even 0.01 mg/m³ or lower may have adverse effects on health. The term acceptable risk is often used to describe those risks which we take which are actually present but which cannot be demonstrated to exist by scientific studies. While it must be clearly stated that there is very little risk to the patient from mercury vapour in the environment of the operator, there is clearly some risk to the dentist, dental hygienist and dental assistant as indicated by various writers^{15,18,20,59}. Kantor and Woodcock (1981)²² recommended that the limit for the TLV for dentistry be lowered to 0.02 mg/m³ as this was a realistic and attainable standard for good dental mercury hygiene.

Rao and Hefferren,⁶⁰ reviewing the literature which attempts to correlate mercury exposure and clinically measurable biochemical, pathological, and behavioural changes state, "Since the major concern in dentistry is the chronic exposure to trace amounts of elemental mercury vapour, any resulting adverse effect may not manifest itself in readily measurable clinical signs and symptoms until a threshold limit is reached after many years". They further state that "These threshold limits may vary among different individuals depending on their body capacity to handle the mercury challenge". Rao and Hefferren⁶⁰ also point out the difficulty of separating potential damage to

Table XIII

**Office Personnel Tested
for Mercury levels (n = 177)**

	%
Urine sample	4
Blood sample	3
Other	2
Never	90

the CNS due to high systemic mercury from symptoms of old age.

During our survey we found quite a number of practitioners who, although using pre-capsulated systems, were also using the squeeze cloth in order to reduce the mercury content of mixes which they considered to be mercury rich. This practice can lead to mercury contamination of the fingers. This is particularly dangerous for those who smoke. Small mercury droplets on the fingers while smoking can readily be vaporized by the heat from the cigarette, and the mercury vapour will be inhaled along with the smoke.

How does our data compare with that of other surveys conducted previously? The data of surveys conducted six to twelve years ago^{17,52,61,62,63} indicates that in general, some 10 per cent of the dental offices had values in excess of the TLV value of 0.05 mg/m³. In one survey⁶¹ in which over 10 per cent of the offices were above the T.L.V., more than two-thirds of this 10 per cent group were also above the 40 per cent health hazard level. The spot measurements in the general location of the dental chair in our survey have shown that just over three per cent of the measurements are $\geq$ the 0.05 mg/m³ level. It is not possible to strictly compare data from the various surveys. However, the increased use of precapsulated amalgam during the last five years may well have reduced the level of mercury pollution in the dental office. However, it was surprising to find that out of 182 responses to the questionnaire 81 per cent indicated that they were using reusable capsules at some time. Of these 21 per cent claimed to be using alloy powder, and 60 per cent pellets whilst only 19 per cent were said to be using the disposable capsules (**Table III**), the use of disposable capsules does seem to reduce the level of mercury vapour as shown in **Table IV** and in **Figure 15**.

The present study compares more favourably with a recent study in the U.K. by Nixon et al⁶⁴, who found that of 125 general practice surgeries only two (1.6 per cent) had values in excess of the T.L.V. (0.05 mg/m³) level. Some 10 per cent were said to have values for ambient mercury vapour concentrations > 0.02 mg/m³. The point was made by these investigators that mercury levels in the

dental operatories tend to fluctuate throughout the day. High concentrations were found to occur in certain areas resulting from certain procedures which lasted for very short periods of time. Previous Canadian studies by Hosein et al (1980)⁶⁵ and Hibberd and Smith (1972)⁶⁶ found that the mixing and dispensing of free mercury caused levels of vapour in the breathing zone to rise as high as 0.08 mg/m³. These elevated levels were of very short duration, the levels were found to fall rapidly following procedures. The levels of urinary mercury for these two studies suggested that mercury exposure was very low. It is clear that there are many problems which complicate surveys of mercury vapour measurements in dentistry and make strict comparisons between different studies somewhat speculative.

CONCLUSIONS

The study may indicate a lower level of mercury pollution in dental operatories compared to studies conducted six to twelve years ago in the U.S. by other workers.

Our survey indicates a low level of usage of protective measures and insufficient planning for accidental spillage. Improved protective measures should be implemented, since evidence is now indicating that even low levels of mercury vapour pollution can be damaging.

Acknowledgments:

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APPENDIX I

Survey of Mercury Vapour in Dental Offices in Atlantic Canada

(Combined Data Atlantic Provinces)

1. General Sample in Location of dental chair.
 (<TLV: 97%; ≥ TLV: 3%)
 n = 375 readings
 $\bar{x} = 0.01 \pm 0.015 \text{ mg/m}^3$
 (<.01)152; (.01-.049)211; (.05-.099)11; (≥ .10)1
 40.5% 56.3% 2.9% 0.3%

2. **Curtains if present.**
 (<TLV: 96%; ≥ TLV: 4%)
 n = 282 readings
 $\bar{x} = 0.01 \pm 0.014 \text{ mg/m}^3$
 (<.01)150; (.01-.049)122; (.05-.099)10; (≥.10)0
 53.2% 43.3% 3.5% 0%
3. **Room heaters or humidity control units.**
 (<TLV: 95%; ≥ TLV: 4%)
 n = 318 readings
 $\bar{x} = 0.01 \pm 0.014 \text{ mg/m}^3$
 (<.01)175; (.01-.049)132; (.05-.099)11; (≥.10)0
 55.0% 41.5% 3.5% 0%
4. **Sinks, traps or saliva ejector, where mercury or amalgam may have been placed.**
 (<TLV: 95%; ≥ TLV: 5%)
 n = 371 readings
 $\bar{x} = 0.01 \pm 0.030 \text{ mg/m}^3$
 (<.01)161; (.01-.049)191; (.05-.099)16; (≥.10)3
 43.4% 51.5% 4.3% 0.8%
5. **Mercury/alloy storage area.**
 (<TLV: 87%; ≥ TLV: 13%)
 n = 273
 $\bar{x} = 0.03 \pm 0.044 \text{ mg/m}^3$
 (<.01)37; (.01-.049)200; (.05-.099)24; (≥.10)12
 13.6% 73.3% 8.8% 4.4%
6. **General area around location used for trituration.**
 (<TLV: 84%; ≥ TLV: 16%)
 n = 363
 $\bar{x} = 0.03 \pm 0.058 \text{ mg/m}^3$
 (<.01)52; (.01-.049)254; (.05-.099)42; (≥.10)15
 14.3% 70.0% 11.6% 4.1%
7. **Location of amalgamator following 20 sec. running of machine.**
 (<TLV: 57%; ≥ TLV: 43%)
 n = 277
 $\bar{x} = 0.09 \pm 0.150 \text{ mg/m}^3$
 (<.01)14; (.01-.049)45; (.05-.099)61; (≥.10)57
 5.1% 52.3% 22.0% 20.6%
- 7(a) **Interior of Dentomat.**
 (<TLV: 23%; ≥ TLV: 77%)
 n = 80
 $\bar{x} = 0.18 \pm 0.179 \text{ mg/m}^3$
 (<.01)3; (.01-.049)15; (.05-.099)12; (≥.10)50
 3.8% 18.8% 15.0% 62.5%
8. **Location of used capsules.**
 (<TLV: 86%; ≥ TLV: 14%)
 n = 266 readings
 $\bar{x} = 0.03 \pm 0.038 \text{ mg/m}^3$
 (<.01)33; (.01-.049)195; (.05-.099)25; (≥.10)13
 12.4% 73.3% 9.4% 4.9%
9. **Waste container for scrap (open).**
 (<TLV: 44%; ≥ TLV: 56%)

n = 354 readings
 $\bar{x} = 0.16 \pm 0.227 \text{ mg/m}^3$
 (<.01)11; (.01-.049)145; (.05-.099)74; (≥.10)124
 3.1% 41.0% 20.9% 35.0%

Waste container for scrap (closed).

(<TLV: 92%; ≥ TLV: 8%)
 n = 141 readings
 $\bar{x} = 0.02 \pm 0.026 \text{ mg/m}^3$
 (<.01)20; (.01-.049)110; (.05-.099)8; (≥.10)3
 14.2% 78.0% 5.7% 2.1%

10. **Vacuum cleaners (dust bag) used to clean offices.**
 (<TLV: 30%; ≥ TLV: 70%)

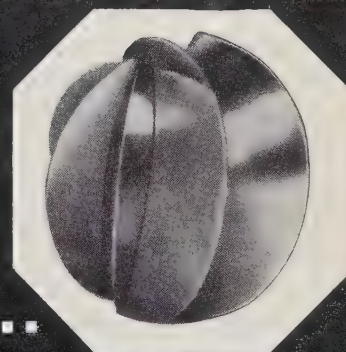
n = 106
 $\bar{x} = 0.39 \pm 0.409 \text{ mg/m}^3$
 (<.01)4; (.01-.049)28; (.05-.099)13; (≥.10)61
 3.8% 26.4% 12.3% 57.5%

11. **Number of amalgam restorations placed in preceding 24 hours.**

n = 375 chairs
 $\bar{x} = 8 \pm 7.7 \text{ restorations}$
 (< 4)132; (4-12)178; (> 12)65
 35.2% 47.5% 17.3%

Editor's note: Readings from the individual provinces in the Atlantic region are available on request from the CDA office at 1815 Alta Vista Drive, Ottawa, Ont. K1G 3Y6.

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Executive Director's Report of 1983 Interim Board of Governors Meeting, held March 4-5

The following is a report of some of the highlights of the Interim meeting of the CDA Board of Governors, held in Ottawa on March 4-5.

FINANCES

The Board approved the Audited Financial Statements for the year ending 1982 and re-appointed the firm of McCay Duff as auditors.

With the implementation of better administrative controls in 1980 and an increase in membership fees, the Association has maintained a favourable financial position. Even with constant increases to the cost of supply of goods and services, administration, including salaries and property management, decreased by 1%; thus the increase in total expenses by 8.7% from 1981 over 1982 reflects increased activities and programs on behalf of members of the Association.

MEMBERSHIP

The CDA has in the past provided services at no cost to both members and non members of the Association. For economic reasons the Board of Governors approved the Membership Committee recommendation to levy an administration fee, of up to 50 per cent, on goods and services provided to non members. Consequently the CDA will be reviewing available materials, particularly pamphlets and library services, for the purpose of compiling new price lists for non members. The CDA Journal, which is presently being distributed to all licensed dentists, will be exempt from any levy.

It has been agreed that CDA members will continue to receive free access to the CDA Resource Library including use of the "Medline Search" facility. This service is being utilized more and more and has definitely filled a void for a great number of individuals.

You will be advised of the determined fee for goods and services in future issues of the CDA Journal.

CDA RRSP'S TRANSFER

The Governors were informed that CDSPI had reviewed the investment performance and overall flexibility of CDA's RRSP Plan as compared to the marketplace. Various proposals were considered for the investment of members' funds in order to comply with governmental regulatory developments which would have resulted in the incurring of increased costs by the Plan.

As a result of the findings, the Board approved the relocation of the CDA/RRSP Plan to The Imperial Life Assurance Company of Canada. It was agreed this move would best meet members' requirements in the area of

retirement savings planning, and the transfer took effect June 1, 1983.

COMMITTEE on SALARIED DENTISTS

At the direction of the Board of Governors in 1982, an Ad Hoc Committee was struck to delineate the concerns of salaried dentists pertinent to the extent of services provided to them by the CDA.

Representatives were chosen from the Canadian Forces Dental Services, Provincial Health Ministry of Ontario, private practice and an educational institution. Recommendations will be submitted to the Annual Board of Governors meeting in Vancouver in September.

TAXATION

The Board expressed great satisfaction with the success of the profession's lobby and the decision by the federal government to withdraw the proposed tax on dental plans.

The Board was also informed of the request to the Department of Finance to review the government policy which imposes a duty on imported gold for dentistry while permitting gold, imported for jewellery, to enter Canada duty-free.

The Taxation Committee is also participating in a multi-professional committee which is preparing a brief to the House of Commons Committee on Pensions Reform.

Several meetings have been held with senior officials of the Department of Revenue to ascertain reasons behind the recent audits of dental practices and changes in government regulations relating to professional management companies.

INFORMATION SERVICES

In the past five months the Council on Information Services has been reviewing reports on the dental profession. These include the R.K. House Manpower Supply Study which confirmed an over-supply of dentists, and various other reports which indicate that approximately 40 per cent of the Canadian population does not visit a dentist on a regular basis. As a result of this review process a major recommendation was approved by the Board of Governors. The CDA will embark on the development and implementation of a public education program which will increase dental awareness.

The CDA is now developing a communications strategy which involve presenting effective, coordinated messages to the public by use of both electronic and print media. Current education programs will be expanded and new methods of dissemination of materials will be explored.

Rapport du directeur général sur la réunion — Intérimaire du bureau des gouverneurs — Points saillants

Voici les points saillants de la réunion intérimaire du Bureau des gouverneurs de l'ADC, qui a eu lieu les 4 et 5 mars à Ottawa.

ÉTATS FINANCIERS

Le Bureau a approuvé le rapport du vérificateur comptable sur les états financiers pour l'exercice se terminant en 1982 et a renouvelé le mandat de la firme McCay Duff.

L'application de meilleurs contrôles administratifs en 1980 et la hausse des cotisations ont permis à l'Association de se maintenir en bonne situation financière. Malgré la hausse constante des frais d'approvisionnements et de services, les frais d'administration, y compris les salaires et la gestion des biens, ont baissé de 1 p. 100. Ainsi, l'augmentation des dépenses de 8,7 p. 100 par rapport à celles 1981 indique qu'on a fait davantage pour les membres de l'Association.

LE SERVICES DES MEMBRES

Jusqu'ici, l'ADC a offert ses services sans frais à tout le monde, membre ou pas. Pour des raisons économiques, le Bureau des gouverneurs a approuvé une recommandation du comité du recrutement à l'effet de prélever des frais d'administration, allant jusqu'à 50 p. 100, sur le coût des biens et services offerts à ceux qui ne sont pas membres. L'ADC passera donc en revue le matériel disponible, notamment les brochures et pamphlets ainsi que la documentation de la bibliothèque, pour établir une nouvelle liste de prix à l'intention de ceux qui ne sont pas membres. Le Journal de l'ADC, qui est actuellement distribué à tous les dentistes licenciés, échappe à la mesure.

Il a été convenu que les membres de l'Association continueront d'avoir accès sans frais au centre de documentation, y compris le service de recherche Medline. De plus en plus de membres ont recours à ce service qui répond définitivement aux besoins de beaucoup.

Les prochains numéros du Journal vous informeront des tarifs qui auront été fixés.

TRANSFERT DU RÉER

Les gouverneurs ont pris connaissance de l'étude du CDSPI sur le rendement des investissements et la mania-bilité du régime enregistré d'épargne-retraite de l'ADC par rapport au marché. Ils ont examiné diverses propositions d'investissement visant à satisfaire aux nouvelles dispositions réglementaires du gouvernement qui ris-quaient par contre d'entraîner des frais supplémentaires.

Le Bureau a, en conséquence, accepté de transférer l'administration du RÉER à la Compagnie d'assurance-vie Impériale du Canada, jugeant que c'était la meilleure façon de répondre aux besoins des membres. La mesure

prendrait effet le 1^{er} juin 1983.

LE COMITÉ DU SALARIAT

À la demande faite en 1982 par le Bureau des gouver-neurs, un comité spécial a été mis sur pied pour établir les besoins des dentistes salariés en ce qui a trait à l'étendue des services que leur offre l'ADC.

On y a nommé des représentants des services dentaires des Forces armées du Canada, du ministère de la santé de l'Ontario, de la pratique privée et des institutions d'ensei-gnement. Le comité présentera ses recommandations au mois de septembre, lors de l'assemblée annuelle du Bureau des gouverneurs, qui aura lieu à Vancouver.

LES QUESTIONS FISCALES

Le Bureau des gouverneurs s'est réjoui du résultat des démarches de la profession auprès du gouvernement fédé-ral qui a décidé d'annuler son projet de taxer les régimes d'assurance dentaire.

Le Bureau a aussi pris connaissance de la demande qui a été faite au ministère des finances de réviser les mesures gouvernementales qui imposent des frais de douane sur l'or importé à titre de matériau dentaire alors que l'or servant à la bijouterie entre au pays franc de port.

Le comité des questions fiscales participe également aux travaux d'un comité multiprofessionnel, qui prépare un mémoire à l'intention du comité de la Chambre des Communes chargé d'examiner la réforme des régimes de retraite.

Il a eu plusieurs rencontres avec les hauts fonction-naires du ministère des finances pour s'assurer du bien-fondé des vérifications chez les cabinets de dentiste, ainsi que des modifications apportées aux règlements touchant les compagnies de gestion des professions.

LES SERVICES D'INFORMATION

Le conseil des services d'information a passé en revue, au cours des cinq derniers mois, divers rapports sur la pro-fession de la médecine dentaire, notamment l'étude de R.K. House sur les ressources en personnel, qui a con-firmé qu'il y avait une surabondance de dentistes, ainsi que d'autres rapports indiquant qu'environ 40 p. 100 de la population du Canada ne voyait pas le dentiste réguliè-rement. Sur recommandation du conseil, le Bureau des gou-verneurs a autorisé l'Association à mettre au point et à entreprendre une vaste campagne d'éducation populaire pour sensibiliser davantage la population.

La stratégie comprendra la présentation efficace et co-ordonnée de messages à la population par le truchement des médias électroniques et imprimés. Les programmes d'éducation actuels seront élargis et l'on expérimentera de nouvelles façons de diffuser l'information. On examine

Executive Director's Report (continued)

Several complementary methods of educating the public are also being considered. CDA members will be kept up to date on the development of this program through the CDA Communiqué.

CONSTITUTION & BY-LAWS

A revision of the Constitution and By-laws of the Association was presented for consideration and duly adopted with minor alterations. The document represented a reorganization and rewriting for clarity.

A number of suggestions from the floor resulted in a decision to allow members further input, and recommendations were invited for consideration and presentation to the Annual Meeting in September. For the most part, these would be requests necessitating policy changes.

Following the September Board of Governors meeting in Vancouver, the 1983 revision of the Constitution and By-laws will be published and will supercede the 1979 edition.

DENTAL MATERIALS & DEVICES

The Board approved the development of a voluntary certification program in conjunction with the Canadian Standards Association. This will permit approved materials to bear a CDA mark certifying compliance with Canadian national standards.

Although the project is in the preliminary stages, it is anticipated that a mandatory program will also be possible for certain dental materials. Further news of this very exciting project will be made available to the profession during the year.

CDSPI — INSURANCE & INVESTMENTS

A Non-Smokers rate was announced by CDSPI and will be available in 1983, with the promotion for changes scheduled in January, 1984. Non-Smoker refers to an individual who has not smoked cigarettes in the last twelve months, and an ongoing recertification policy will be implemented and a recertification procedure done at five-year intervals.

An automatic 10% increase of Office Contents and Business Interruption coverage to those participants on file will be implemented to take effect July 1, 1983. This increase is not mandatory and participants will be informed.

GOVERNMENT RELATIONS

The Board was advised of the following CDA/Federal Government activities: CDA has been requested to provide assistance and evaluation of dental treatment for Native and Inuit people in Canada, by Health and Welfare's Medical Services Branch. A special subcommittee of the Council on Health Care will be formed to consider the feasibility of the program and recommend methods of implementation, if appropriate.

The Federal Government document on National Health Strategies was reviewed and CDA has responded noting that dentistry should not have been excluded. The fact that dental disease does indeed contribute to national health was pointed out.

The Health and Welfare document "Standards and Guidelines in Dental Practice" was reviewed by CDA and the appropriate authorities in the Federal Government were informed that the Association would be interested in participating actively in any future working groups that may be convened.

The Association offered recommendations that the creation, development and participation in future working groups related to dentistry should be a cooperative venture between Health and Welfare and the CDA; and that the composition of each working group should be representative of a broad range of people active in the area being studied. The CDA should be consulted for comments prior to the composition of working groups being finalized.

CDA was advised of Health and Welfare's appreciation of the input into this document. The Association, through recently established communications links is more aware of government action and through regular contact is better able to respond on behalf of the profession.

Hubert Drouin
Executive Director

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Rapport du directeur-général

aussi la possibilité de recourir à des techniques d'appoint d'éducation populaire. Les membres seront informés des développements par le communiqué de l'ADC.

STATUTS ET RÈGLEMENTS

Le projet de révision des statuts et règlements a été examiné, puis adopté avec de légères modifications. Il s'agissait en somme de restructurer le document et d'en clarifier la rédaction.

Pour donner suite à certaines suggestions, le Bureau a décidé de permettre aux membres d'apporter d'autres observations et recommandations concernant, pour la plupart, des modifications de principe. Invitation a été faite de présenter les recommandations à temps pour l'assemblée annuelle du mois de septembre.

Les statuts et règlements révisés de 1983 seront publiés après la réunion des gouverneurs qui aura lieu en septembre à Vancouver, et ils remplaceront ceux de 1979.

MATÉRIAUX ET APPAREILS DENTAIRES

Le Bureau a approuvé la mise au point d'un programme de certification volontaire, conjointement avec l'Association canadienne de normalisation. Ceci permettra d'apposer aux matériaux et appareils une marque de l'ADC certifiant qu'ils répondent aux exigences de l'Acnor.

Le projet ne fait que commencer mais on prévoit que le programme s'appliquera peut-être obligatoirement à certains matériaux. D'autres informations sur ce projet des plus intéressantes seront diffusées au cours de l'année.

ASSURANCES ET PLACEMENTS (CDSPI)

Le CDSPI a annoncé, pour les non fumeurs, des nouveaux tarifs qui seront accessibles en 1983, mais dont la promotion se fera au mois de janvier 1984. Un non fumeur signifie une personne qui n'a pas fumé de cigarettes pendant les douze derniers mois. Les candidats devront se soumettre à des modalités d'attestation qui comprendront une vérification tous les cinq ans.

La couverture du mobilier et de l'équipement ainsi que de l'interruption des affaires des assurés a été haussée de 10 p. 100, à compter du 1^{er} juillet 1983. Elle n'est cependant pas obligatoire et les personnes intéressées en seront informées.

RELATIONS AVEC LE GOUVERNEMENT

Le Bureau a pris connaissance des activités suivantes. La direction générale des services médicaux de Santé et Bien-être Canada a demandé à l'ADC de l'aider à évaluer les services de soins dentaires offerts aux populations autochtones et inuit du pays. Un sous-comité spécial du Conseil des services de santé sera créé pour examiner les possibilités de mise en oeuvre du programme et recommander les mesures appropriées.

L'ADC a passé en revue le document du gouvernement fédéral sur les moyens de promouvoir la santé nationale et a souligné qu'on n'aurait pas dû y omettre les questions

touchant la médecine dentaire, insistant sur le fait que les maladies dentaires ont une incidence réelle sur la santé nationale.

L'Association a aussi examiné le document de Santé et Bien-être Canada proposant des normes et des lignes directrices pour les cabinets de dentiste. Elle a, par la suite, informé les autorités qu'elle serait disposée à participer aux travaux de tout groupe qui pourrait être mis sur pied à l'avenir.

L'Association a recommandé que la création de groupes de travail en matière de médecine dentaire, la définition de leur mandat et leurs travaux eux-mêmes se fassent en toute collaboration entre les deux organismes, et que chaque groupe comprenne des représentants des diverses disciplines oeuvrant dans le domaine à l'étude. L'ADC devrait être consultée avant que la formation de ces groupes ne soit définitive.

L'ADC a été informée que le ministère avait apprécié sa participation concernant ce document. De nouvelles relations établies récemment lui permettent d'être mieux informée des activités du gouvernement et la régularité de ces contacts l'aideront à mieux réagir dans l'intérêt de la profession.

*Hubert Drouin,
directeur général*

RESPIRER LIBREMENT

Un programme individuel pour enfants souffrant d'asthme

Laissez la girafe à rayures bonbons, "l'inspecteur Legrand" et ses amis Michelle et Paul (deux enfants atteints d'asthme) amener votre enfant dans une aventure merveilleuse afin de trouver la solution pour "Respirer Librement". Pour obtenir un exemplaire du programme "Respirer Librement", un livre bien illustré et un disque d'exercices de respiration, communiquez avec votre Association Pulmonaire.



Commandite par
GULF CANADA
LIMITÉE



Votre



Association pulmonaire
"Le monde du Timbre de Noël"

Financial Statement

We have examined the balance sheet of the Canadian Dental Association as at December 31, 1982 and the statements of members' equity, revenue and expenses, and equity for the Library Trust Fund and the Grieve Memorial Lectureship Fund and changes in financial position for the year then ended. Our examination was made in accordance with

generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the Association as at December 31, 1982 and the results of its operations and the changes in its

financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

McCay Duff and Co.
Chartered Accountants.
Ottawa, Ontario,
January 12, 1983.

BALANCE SHEET AS AT DECEMBER 31, 1982

ASSETS		
	1982	1981
Current		
Cash	\$1,062,441	\$ 545,764
Deposit certificate	—	200,000
Accounts receivable	61,399	66,591
Inventory (note 1)	40,202	45,169
Prepaid expenses	36,611	25,025
	<u>1,200,653</u>	<u>882,549</u>
FIXED (notes 1 and 2)	<u>1,353,140</u>	<u>1,332,289</u>
	<u>2,553,793</u>	<u>2,214,838</u>

TRUST ASSETS		
Cash	58,495	58,380
Bonds and deposit certificate	5,343	5,343
Library books and furniture (at nominal value)	1	1
	<u>63,839</u>	<u>63,724</u>
	<u>\$2,617,632</u>	<u>\$2,278,562</u>

LIABILITIES		
Current		
Accounts payable	\$ 70,839	\$ 50,420
Deferred revenue	542,600	588,409
Current portion of long term debt	6,000	6,000
	<u>619,439</u>	<u>644,829</u>
Long-Term Debt (note 3)	<u>430,387</u>	<u>448,094</u>

MEMBERS' EQUITY		
Surplus	587,214	243,720
Equity in Fixed Assets	<u>916,753</u>	<u>878,195</u>
	<u>1,503,967</u>	<u>1,121,915</u>
	<u>2,553,793</u>	<u>2,214,838</u>

TRUST LIABILITIES AND EQUITY		
Accounts payable	333	500
Library Trust Fund	57,373	57,455
The Grieve Memorial Lectureship Fund	6,133	5,769
	<u>63,839</u>	<u>63,724</u>
	<u>\$2,617,632</u>	<u>\$2,278,562</u>

STATEMENT OF REVENUE AND EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 1982			
	1982	1981	
	Budget	Actual	Actual
REVENUE			
Fees (schedule A)	\$1,758,755	\$1,817,040	\$1,781,072
Grants	36,500	37,669	45,185
Journal (schedule C)	408,500	359,075	315,312
Publications	35,000	56,911	42,331
Interest	30,000	148,881	104,902
Rental	106,962	110,556	112,383
Other (schedule B)	21,000	28,178	61,288
	<u>2,396,717</u>	<u>2,558,310</u>	<u>2,462,473</u>

EXPENSES			
Honoraria and per diem	156,625	171,984	168,998
Salaries and benefits	514,800	515,940	458,949
General and administration (schedule D)	280,300	279,083	296,614
Conferences	29,500	32,933	48,178
Journal (schedule C)	480,600	409,805	376,993
Other publications (schedule E)	63,000	68,239	51,813
Institutional advertising	15,000	1,717	—
Travel and meetings (schedule F)	257,400	292,661	239,094
Unbudgeted Projects (schedule F)	—	34,984	51,688
Project management	256,941	234,833	225,697
Dental Health Month	30,000	30,649	29,028
Accreditation surveys	30,600	27,588	15,009
Dental Aptitude Program	41,000	45,848	38,459
Membership campaign	25,000	13,193	—
Student affairs	7,000	15,314	—
F.D.I. administration	6,000	1,487	—
	<u>2,193,766</u>	<u>2,176,258</u>	<u>2,000,520</u>

Excess of revenue over expenses for the year	<u>\$ 202,951</u>	<u>\$ 382,052</u>	<u>\$ 461,953</u>
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Rapport financier

Nous avons examiné le bilan de l'Association dentaire canadienne au 31 décembre 1982, l'état de la valeur nette, du revenu et des dépenses des membres, celui du revenu, des dépenses et de la valeur nette des fonds en fiducie pour la bibliothèque et du fonds "Grieve Memorial Lectureship", ainsi que l'évolution de la situation financière de l'exercice terminé à cette

date. Notre vérification a été effectuée conformément aux normes de vérification généralement reconnues, et a comporté par conséquent les sondages et autres procédés que nous avons jugé nécessaires dans les circonstances.

À notre avis, ces états financiers présentent fidèlement la situation financière de l'Association au 31 décembre 1982 ainsi que le résultat de

ses opérations et l'évolution de sa situation financière pour l'exercice terminé à cette date, selon les principes de comptabilité généralement reconnus, appliqués de la même manière qu'au cours de l'exercice précédent.

McCay Duff and Co.
Comptables agréés
Ottawa (Ontario)
le 12 janvier 1983.

BILAN AU 31 DÉCEMBRE 1982			ÉTAT DU REVENU ET DES DÉPENSES			
ACTIF			POUR L'EXERCICE TERMINÉ LE 31 DÉCEMBRE, 1982			
	1982	1981		1982	1981	
				Budget	Réel	Réel
Disponibilités			REVENU			
Encaisse	\$1,062,441	\$ 545,764	Cotisations (tableau A)	\$1,758,755	\$1,817,040	\$1,781,072
Certificats de dépôt	—	200,000	Subventions	36,500	37,669	45,185
Comptes à recevoir	61,399	66,591	Journal (tableau C)	408,500	359,075	315,312
Stock (note 1)	40,202	45,169	Publications	35,000	56,911	42,331
Frais payés d'avance	36,611	25,025	Intérêts	30,000	148,881	104,902
	<u>1,200,653</u>	<u>882,549</u>	Location	106,962	110,556	112,383
IMMOBILISATIONS			Autres (tableau B)	21,000	28,178	61,288
(notes 1 et 2)	1,353,140	1,332,289		<u>2,396,717</u>	<u>2,558,310</u>	<u>2,462,473</u>
	<u>2,553,793</u>	<u>2,214,838</u>	DÉPENSES			
ACTIF DU FONDS EN FIDUCIE			Honoraires et allocations quotidiennes	156,625	171,984	168,998
Encaisse	58,495	58,380	Salaires et avantages	514,800	515,940	458,949
Obligations et certificats de dépôt	5,343	5,343	Frais généraux et administratifs (tableau D)	280,300	279,083	296,614
Livres et mobilier de la bibliothèque (valeur nominale)	1	1	Conférences	29,500	32,933	48,178
	<u>63,839</u>	<u>63,724</u>	Journal (tableau C)	480,600	409,805	376,993
	<u>\$2,617,632</u>	<u>\$2,278,562</u>	Autres publications (tableau E)	63,000	68,239	51,813
PASSIF			Publicité	15,000	1,717	—
Exigibilités			Frais de voyage et de réunions (tableau F)	257,400	292,661	239,094
Comptes à payer	\$ 70,839	\$ 50,420	Projets non prévus au budget (tableau F)	—	34,984	51,688
Revenu reporté	542,600	588,409	Gestion des immeubles	256,941	234,833	225,697
Partie courante de la dette à long terme	6,000	6,000	Mois de la santé dentaire	30,000	30,649	29,028
	<u>619,439</u>	<u>644,829</u>	Visites d'agrément	30,600	27,588	15,009
Dette à long terme (note 3)	<u>430,387</u>	<u>448,094</u>	Tests d'aptitude	41,000	45,848	38,459
VALEUR NETTE DES MEMBRES			Campagne de recrutement	25,000	13,193	—
Surplus	587,214	243,720	Affaires étudiantes	7,000	15,314	—
Valeur nette des immobilisations	916,753	878,195	Administration de la F.D.I.	6,000	1,487	—
	<u>1,503,967</u>	<u>1,121,915</u>		<u>2,193,766</u>	<u>2,176,258</u>	<u>2,000,520</u>
	<u>2,553,793</u>	<u>2,214,838</u>	Surplus de l'exercice	\$ 202,951	\$ 382,052	\$ 461,953
PASSIF ET VALEUR NETTE DU FONDS EN FIDUCIE						
Comptes à payer	333	500				
Fonds en fiducie pour la bibliothèque	57,373	57,455				
Fonds "Grieve Memorial Lectureship"	6,133	5,769				
	<u>63,839</u>	<u>63,724</u>				
	<u>\$2,617,632</u>	<u>\$2,278,562</u>				

**STATEMENT OF CHANGES IN FINANCIAL
POSITION FOR THE YEAR ENDED
DECEMBER 31, 1982**

	1982	1981
Source of Funds		
Operations		
Excess of revenue over expenses for the year	382,052	461,953
Item not requiring working capital — depreciation	57,343	57,296
	<u>439,395</u>	<u>519,249</u>
Application of Funds		
Purchase of fixed assets	78,194	14,226
Reduction of long term debt	17,707	5,635
	<u>95,901</u>	<u>19,861</u>
Increase in working capital	343,494	499,388
Working capital (deficiency) — beginning of year	237,720	(261,668)
Working capital — End of Year	<u>\$581,214</u>	<u>\$237,720</u>

LIBRARY TRUST FUND

Statement of revenue and expenses
and equity for the year ended
December 31, 1982

	1982	1981
Revenue		
Interest	\$ 8,176	\$ 9,648
Expenses		
Binding	55	67
Books and furniture	1,216	4,965
Medline terminal	2,488	—
Subscriptions	2,446	524
Supplies and services	2,053	3,303
	<u>8,258</u>	<u>8,859</u>
Excess of revenue over expenses (Expenses over revenue for the year)	(82)	789
Equity — beginning of year	57,455	56,666
Equity — End of year	<u>\$57,373</u>	<u>\$57,455</u>

**NOTES TO FINANCIAL STATEMENTS
DECEMBER 31, 1982**

1. Significant Accounting Policies

- (a) Inventory
Inventory is stated at the lower of cost and net realizable value.
- (b) Depreciation
Furniture and equipment purchased subsequent to January 1, 1979 are expensed when acquired. Depreciation is provided on the straight line basis as follows:
- | | |
|---------------------------|------------|
| Building | — 40 years |
| Building improvements | — 5 years |
| Furniture and equipment | — 10 years |
| Data processing equipment | — 5 years |
- (c) Revenue Recognition
Membership fees and subscriptions to the Journal are recognized as revenue in the year to which they apply. Grants are recognized as revenue when received.

2. Fixed Assets

	1982		1981	
	Cost	Accum. Deprec'n	Net	Net
Land	\$ 82,915	\$ —	\$ 82,915	\$ 82,915
Building	1,376,435	237,544	1,138,891	1,173,301
Building improvements	72,010	34,475	37,535	42,648
Furniture and equipment	88,309	62,461	25,848	33,425
Data processing equipment	69,542	1,591	67,951	—
	<u>\$1,689,211</u>	<u>\$336,071</u>	<u>\$1,353,140</u>	<u>\$1,332,289</u>

3. Long-Term Debt

	1982	1981
Mortgage	\$436,387	\$454,094
Current portion	6,000	6,000
	<u>\$430,387</u>	<u>\$448,094</u>

The mortgage with Canada Trust bears interest at bank prime rate and is due in 1985.

4. Comparative Figures

Certain comparative figures have been reclassified to conform with current statement presentation.

THE GRIEVE MEMORIAL LECTURESHIP FUND

Statement of revenue and expense
and equity for the year ended
December 31, 1982

	1982	1981
Revenue		
Interest	\$ 364	\$ 399
Expense		
Grant to the Orthodontic section of the Canadian Dental Association	—	700
Excess of revenue over expense (Expense over revenue) for the year	364	(301)
Equity — beginning of year	5,769	6,070
Equity — End of year	<u>\$6,133</u>	<u>\$5,769</u>

**ÉTAT DE L'ÉVOLUTION DE LA
SITUATION FINANCIÈRE
POUR L'EXERCICE TERMINÉ
LE 31 DÉCEMBRE 1982**

	1982	1981
Provenances du fonds		
Opérations		
Excédant du revenu sur les dépenses de l'année	\$382,052	\$461,953
Item n'engageant aucune sortie de fonds — amortissement	<u>57,343</u>	<u>57,296</u>
	439,395	519,249
Application de fonds		
Acquisition d'actifs immobilisés	78,194	14,226
Versements sur la dette à long terme	<u>17,707</u>	<u>5,635</u>
	95,901	19,861
Augmentation du fonds de roulement	343,494	499,388
Fonds de roulement (défictaire) au début de l'exercice	<u>237,720</u>	<u>(261,668)</u>
Fonds de roulement à la fin de l'exercice	<u>\$581,214</u>	<u>\$237,720</u>

**FONDS EN FIDUCIE POUR LA
BIBLIOTHÈQUE**

États du revenu, des dépenses et de la valeur nette pour l'exercice terminé le 31 décembre 1982

	1982	1981
Revenu		
Intérêts	\$ 8,176	\$ 9,648
Dépenses		
Reliure	55	67
Livres et mobilier	1,216	4,965
Terminal Medline	2,488	—
Abonnements	2,446	524
Approvisionnements et services	<u>2,053</u>	<u>3,303</u>
	8,258	8,859
Surplus (Déficit) de l'exercice	(82)	789
Valeur nette au début de l'exercice	<u>57,455</u>	<u>56,666</u>
Valeur nette à la fin de l'exercice	<u>\$57,373</u>	<u>\$57,455</u>

**NOTES SE RAPPORTANT AUX ÉTATS
FINANCIERS POUR L'EXERCICE TERMINÉ
LE 31 DÉCEMBRE 1982**

1. Principales conventions comptables

- (a) Les stocks
Les stocks sont évalués au plus bas du prix coûtant et de la valeur nette de réalisation.
- (b) L'amortissement
Le mobilier et l'équipement achetés après le 1^{er} janvier 1979 sont considérés comme dépenses au moment de l'achat.
L'actif immobilisé est amorti selon la méthode linéaire:
- | | |
|-------------------------|----------|
| Immeubles | — 40 ans |
| Améliorations | — 5 ans |
| Mobilier et équipement | — 10 ans |
| Équipement informatique | — 5 ans |
- (c) Réalisation des revenus
Les cotisations et les abonnements au Journal sont appliqués à l'année à laquelle ils se rapportent, tandis que les subventions le sont à l'année durant laquelle elles sont reçues.

2. Les immobilisations

	1982		1981	
	Coût	Amort. accum.	Valeur nette	Valeur nette
Terrain	\$ 82,915	\$ —	\$ 82,915	\$ 82,915
Immeuble	1,376,435	237,544	1,138,891	1,173,301
Améliorations	72,010	34,475	37,535	42,648
Mobilier et équipement	88,309	62,461	25,848	33,425
Équipement informatique	69,542	1,591	67,951	—
	<u>\$1,689,211</u>	<u>\$336,071</u>	<u>\$1,353,140</u>	<u>\$1,332,289</u>

3. La dette à long terme

	1982	1981
Hypothèque	\$436,387	\$454,094
Partie courante	6,000	6,000
	<u>\$430,387</u>	<u>\$448,094</u>

L'hypothèque du Trust du Canada porte intérêt au taux préférentiel et vient à échéance en 1985.

4. Les comparaisons

Certains nombres correspondants ont été réordonnés pour permettre la comparaison dans le présent rapport.

FONDS "GRIEVE MEMORIAL LECTURESHIP"

État du revenu, des dépenses et de la valeur nette pour l'exercice terminé le 31 décembre 1982

	1982	1981
Revenu		
Intérêts	\$ 364	\$ 399
Dépenses		
Subvention à la section Orthodontie de l'Association dentaire canadienne	—	700
Surplus (Déficit) de l'exercice	364	(301)
Valeur nette au début de l'exercice	<u>5,769</u>	<u>6,070</u>
Valeur nette à la fin de l'exercice	<u>\$6,133</u>	<u>\$5,769</u>

10% more coverage for office contents and business interruption insurance

To help maintain adequate protection for your office, its furnishings, equipment, and the income they provide you, there will be a 10% automatic increase in your Office Contents and Business Interruption Insurance coverage under the Canadian Dentists' Insurance Program, effective July 1.

The cost of the additional coverage will be billed to you automatically. However, there is no intention of forcing additional coverage on any participant who does not require it. If you do not want the increased coverage, please inform CDSPI as soon as possible.

An automatic increase like this offsets some of the effects of inflation on your coverage. It's one way the Canadian Dentists' Insurance Program tries to make it easier for you to manage your own insurance affairs ... and save money.

This is a good time to review your coverage. Even with the 10% increase, you still may be dangerously under-insured, given today's high replacement costs. If you wish to increase coverage by more than 10%, write to CDSPI.

If you are not a participant in the dentists' plan, this may be a good time to compare our rates and policy provisions with what you're paying now.

Remember:

The Canadian Dentists' Insurance Program is designed to benefit you – no one else.



**Canadian
Dentists'
Insurance
Program**

For Personal Insurance Service or for information on any insurance problem, call CDSPI's Central Information Service anytime, toll-free.

1-800-268-5418 Western Canada, Atlantic Canada
and Ontario Area Code 807
1-800-268-3411 Quebec and Ontario, **except** for
Area Code 807
497-7117 Metro Toronto

CDA Resource Centre/Le Centre de documentation

EMERGENCIES IN THE DENTAL OFFICE

One copy of the following articles is available at no charge from the library. This bibliography was generated with the help of MEDLARS, a computerized information retrieval system for the Health Sciences field, which has been operational at the library since February 1982, and is at the disposal of all members.

1. Alexander, R.E. *A prevention-oriented approach to dental office emergencies*. U.S. Navy Medicine, v. 70, no. 10, October 1979, pp. 16 - 20.
2. Choukroun, G. *Aspect psychologique de l'urgence au cabinet dentaire*. Chirurgien Dentiste de France, v. 51, no. 133, November 12, 1981, pp. 45 - 48.
3. Dworin, A.M. and Gobetti, J.P. *Medical emergencies in dental practice. Part IV: the dyspneic patient*. Journal of the Michigan Dental Association, v. 61, no. 6, June 1979, pp. 347 - 350.
4. Dworin, A.M. and Gobetti, J.P. *Medical emergencies in dental practice. Part V: Miscellaneous medical emergencies*. Journal of the Michigan Dental Association, v. 61, no. 7-8, pp. 421 - 423.
5. *Emergencies in the dental office*. Prepared by the Commission on Dental Materials, Instruments, Equipment and Therapeutics. International Dental Journal, v. 29, no. 1, March 1979, pp. 41 - 53.
6. Evans, B.E. and Aledort, L.M. *Hemophilia and dental treatment*. Journal of the American Dental Association, v. 96, no. 5, May 1978, pp. 827 - 834.
7. Freeman, N.S. and others. *Office emergencies: an outline of causes, symptoms, and treatment*. Jour-

nal of the American Dental Association, v. 94, no. 1, January 1977, pp. 91-96.

8. Gitelman, J.M. *Medical emergencies in the dental office*. Journal of the District of Columbia Dental Society, Spring 1977, pp. 13 - 15.
9. Gobetti, J.P., Dworin, A.M. and Bradley, B.E. *Medical emergencies in dental practice. Part I: Preparation*. Journal of the Michigan Dental Association, v. 61, no. 2, February 1979, pp. 139 - 143.
10. Holzapfel, G.S. *Legal aspects of emergency dental care*. Dental Clinics of North America, v. 26, no. 1, January 1982, pp. 187-195.
11. Kryshchalskyj, E. and others. *Medical emergencies in dental practice: are you prepared?* Ontario Dentist, v. 58, no. 7, July 1981, pp. 15 - 16.
12. Lubar, R.L., Katin, R.A. and Adilman, H.B. *A logical approach to the treatment of acute medical emergencies in the dental office*. CDS Review, v. 72, no. 6, June 1979, pp. 27 - 30.
13. Machado, L. *Medical emergencies. Preparing dental staffs to respond*. Dental Student, v. 59, no. 2, October 1980, pp. 45 - 47.

LES URGENCES AU CABINET DENTAIRE

On peut se procurer sans frais une copie des articles ci-dessous. Cette bibliographie a été dressée grâce à MEDLARS, un système automatisé de recherche documentaire sur les sciences de la santé que la bibliothèque exploite depuis le mois de février 1982, et qu'elle met au service de tous les membres.

14. Maitland, R.I. *Patient assessment in the dental office emergency*. New York State Dental Journal, v. 48, no. 7, August-September 1982, pp. 442 - 445.
15. McGivern, B.E. jr. *The office emergency cart*. Journal of Oral Surgery, v. 37, no. 6, June 1979, pp. 436 - 439.
16. Mosby, E.L. *Managing emergencies in the dental office*. U.S. Navy Medicine, v. 68, no. 6, June 1977, pp. 22 - 25.
17. Perks, E.R. *The diagnosis and management of sudden collapse in dental practice. Part I. The incidence of emergencies*. British Dental Journal, v. 143, no. 6, September 20, 1977, pp. 196 - 200.
18. Ryan, D.E. and Bronstein, S.L. *Dentistry and the diabetic patient*. Dental Clinics of North America, v. 26, no. 1, January 1982, pp. 105 - 118.
19. Snyder, J.A. and Nalls, D.E. jr. *Managing cardiac arrest in the dental office*. Virginia Dental Journal, v. 58, no. 5, October 1981, pp. 14 - 16.
20. Stroh, J.E. jr. and Johnson, R.L. *Allergy-related emergencies in dental practice*. Dental Clinics of North America, v. 26, no. 1, January 1982, pp. 87 - 98.

Resource Centre (continued)

NEW LIBRARY ACQUISITIONS

The following current acquisitions are available on loan from the Resource Centre/Library.

1. Canadian Standards Association. *Diagnostic Electrocardiographs: Minimum Performance Requirements*. Rexdale, Ont.: The Association, 1982. 32 p. 1 copy.
2. *Oral Hygiene in Oral Health*, edited by Hyman Goldberg and Louis Ripa. Springfield, Ill.: Thomas, 1977. 392 p. 1 copy.
3. Statistics Canada. *Perspectives on Health*, by Janet Ableson,

TITRES EN BIBLIOTHÈQUE

Les titres indiqués ci-dessous sont maintenant disponibles à la bibliothèque/centre de documentation de l'ADC.

- Peter Paddon and Claude Strohmenger. Ottawa: Minister of Supply and Services, 1983. 110 p. 1 copy.
4. *Trace Elements and Dental Disease*, edited by M.E.J. Curzon and T.W. Cutress. Boston: Wright — PSG, 1982. 417 p. 1 copy.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association's Retirement Savings Plan stood as follows on April 30, 1983.

Common Stock Fund \$70.4839

Fixed Income Fund \$36.0794

Guaranteed Fund \$25.9868

Balanced Fund \$14.1712

Total assets (market value) of the plan were \$36,572,766.

The previous month's figures, as of March 31, 1983, stood as follows:

Common Stock Fund \$66.9470

Fixed Income

Fund \$35.2139

Guaranteed Fund \$25.7973

Balanced Fund \$13.6961

Total assets (market value) of the plan were \$35,480,000.

For further information write to: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3 or call the central information services of CDSPI at 1-800-268-5418 (toll free number for Western Canada, Atlantic Canada and Ontario for Code 807 only), 1-800-268-3411 (toll free number for Quebec and Ontario—except Code 807), and 497-7117 (Metro Toronto area).



THE DENTAL SPECTRUM ANTIBIOTIC

REFERENCES

1. Johnson RH, Rozanis J, Schofield IDF et al. The Effect of Spiramycin on Plaque Accumulation and Gingivitis. *Canad Dent Assn J* 1978;10:456-60.
2. Bénazet F, Dubost M. Apparent Paradox of Antimicrobial Activity of Spiramycin. *Antibiotics Annual* 1958-59:211-20.
3. Mills WH, Thompson GW, Beagrie GS. Clinical Evaluation of Spiramycin and Erythromycin in Control of Periodontal Disease. *J Clin Periodontol* 1979;6:308-16.
4. Kernbaum S. La spiramycine: Utilisation en thérapeutique humaine. *Sem Hôp Paris* 1982; 58(5):289-97.

PRESCRIBING INFORMATION: ROVAMYCINE® (spiramycin)

INDICATIONS AND CLINICAL USES

The treatment of infections of the respiratory tract, **buccal cavity**, skin and soft tissues due to susceptible organisms. *Neisseria gonorrhoeae*: as an alternate choice of treatment for gonorrhea in patients allergic to the penicillins. Before treatment of gonorrhea, the possibility of concomitant infection due to *T. pallidum* should be excluded.

CONTRAINDICATIONS

Rovamycine is contraindicated in patients with known hypersensitivity to the drug. The levels of spiramycin attained in the cerebrospinal fluid are much lower than those in the blood and are too low to be clinically useful. Therefore Rovamycine must not be used in patients with meningitis.

PRECAUTIONS

Administer antibiotics, including Rovamycine cautiously to any patient who has demonstrated some form of allergy, particularly to drugs. The possibility of superinfection caused by overgrowth of nonsusceptible organism should be kept in mind during prolonged or repeated therapy. If superinfection occurs, discontinue the drug and take appropriate measures. Safety of this product for use during pregnancy has not been established.

ADVERSE REACTIONS

Rovamycine has a low toxicity and rarely produces serious adverse effects; these include epigastric pain and abdominal discomfort, nausea, vomiting, diarrhea and skin sensitization.

SYMPTOMS AND TREATMENT OF OVERDOSAGE

SYMPTOMS: No case of accidental overdosage has been reported. In oral doses over 4 g per day, abdominal discomfort, nausea or diarrhea may occur.

TREATMENT: No specific treatment has been proposed. Management should be symptomatic.

DOSAGE AND ADMINISTRATION

Adults: 6,000,000 to 9,000,000 I.U. (4 to 6 capsules of Rovamycine '500') per 24 hours, in 2 divided doses. In severe infections, the daily dosage may be increased to 12,000,000 to 15,000,000 I.U. (8 or 10 capsules of Rovamycine '500' per day). Gonorrhea: 12,000,000 to 13,500,000 I.U. (8 to 9 capsules) in a single dose.

Children: The usual daily dosage is based on 150,000 I.U./kg body weight in 2 or 3 divided doses; the following calculated dosages are given as a guide.

BODY WEIGHT	DOSAGE IN CAPSULES ROVAMYCINE '250' (750,000 I.U. SPIRAMYCIN/CAPSULE)
15 kg	3 capsules/day
20 kg	4 capsules/day
30 kg	6 capsules/day

Spiramycin is stable in gastric juices and absorption is not affected by food.

In severe infections, the daily dosage may be increased by one half. In the treatment of beta-hemolytic streptococcal infections, adequate Rovamycine dosage should be administered for 10 days.

AVAILABILITY

Rovamycine '250': Capsules of 750,000 I.U., bottles of 100.
Rovamycine '500': Capsules of 1,500,000 I.U., bottles of 100.

REVISED: April 1982



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Oral Histology — Development, Structure and Function

A. R. Ten Cate

C.V. Mosby Co.,
St. Louis, Missouri,
1980.

This book on Oral Histology is intended for the use of undergraduate dental students. It has received contributions from several individuals. The style in which much of the text material is presented is, with some exceptions, fairly uniform, and easy to read and the author should be commended for his efforts. In each chapter the subject matter is liberally documented with light micrographs, and scanning and transmission electron micrographs. In virtually every chapter large line drawings are presented in an effort to simplify difficult concepts. At places, effort is also made to summarize the descriptive text in "tabular" or "point" form. The following criticisms are intended towards improving future editions of this commendable effort by Richard Ten Cate.

The book begins with an overview of early embryonic development, followed by a chapter on the embryology of the head, face and oral cavity. In light of current research, the text material is very brief. The diagrams in places show a lack of uniformity in their presentation. For example, in figs. 1.7-1.13 the ectoderm and its derivatives, including the lining of amniotic cavity, are shown as solid lines. The uniformity, however, is not maintained in fig. 1.14. Some disparity of ecto and endoderm is present between figs. 2.1 and 2.11.

On page 44, the discussion on cleft lip and cleft palate is marred by conceptual problems. It is stated that "some various

types of cleft lip and palate which can be readily understood from a knowledge of embryology include; microstomia... macrostomia...". Certainly "microstomia" and "macrostomia", from both the conceptual, and clinical standpoint, are not cleft lip and cleft palate!

In the subsequent chapters, the authors have covered the traditional areas of Oral Histology from both the developmental and structure-function viewpoints. They include tissues of the tooth (enamel, dentin, cementum, pulp) and associated structures (periodontal ligament, alveolar bone, oral mucosa and salivary gland). The text material is well written. Some of the photographs, however, have very poor contrast. In many instances the triangles and dots indicating non-human and human material, the figure numbers, and structure identification arrows are difficult to recognize. Because there are inter-species differences between the structure, chemistry and organization of cells and tissues, it would have been worthwhile to point out the animal source of the tissue, the plane of section, and staining procedures employed for light micrographs.

Several illustrations, especially the electron micrographs, could have been larger for better visual understanding. Some of the photographs could have been better explained by incorporating appropriate identification. At times the figure legends are very brief and non-specific. Because of their smaller print, they are generally difficult to read. For the sake of readers, these difficulties should certainly be corrected in the future edition of the book.

The book also contains several chapters which are not commonly found in currently available textbooks of Oral Histology-Embry-

ology, and this is one of its major strengths. It includes chapter on Epithelial-Mesenchymal Relation, Collagen and Mineralization, Bone, Surface Coatings of Teeth, and Childhood Facial Growth and Developments (including Temporomandibular Joint). This is a very refreshing effort to round out the subject. The text material in these chapters is well written. One, however, would also have liked the details and data on "prenatal" facial growth and development in the last chapter of the book, since a fair amount of excellent research material on human is available in the recent literature.

Many line drawings in these chapters are complex and cumbersome when one considers that the book is written for undergraduate dental students. Also the pictures and diagrams are inadequately explained in the figure legends.

An enormous amount of space is wasted on each page of the textbook. By proper space utilization, the number of pages in the book might have been significantly reduced, and consequently the cost. In the present economic circumstances, this is worthwhile.

The aforementioned criticisms are largely technical in nature, and intended to be constructive. Richard Ten Cate has tried many novel ideas, and has excelled on several fronts in this book. Indeed, the book may also serve as a good reference source for general dental practitioners who may wish to re-educate themselves in some of the current concepts of the basic sciences as they are related to dentistry.

This book was reviewed by Ravinda M. Shah, Associate Professor, The University of British Columbia.

Marketing for the Dental Practice

Charles Milne,
Charles Blair
and James Littlefield

*W.B. Saunders Company
Philadelphia, PA
1982 377 pages*

"For the first time in North American dental history, many dentists have been caring for fewer patients than they would optimally like to treat". Starting from this now well-established fact, this text takes the concerned reader/dentist down an easy to follow path of enlightenment, techniques, and social philosophy allowing his practice to generate and serve more patients. The consequent stability and strength of income will naturally follow.

The authors' are resolute in presenting their material in an uncluttered and clear manner. Readers of some maturity in practice and newcomers to professional life will equally benefit. Contrary to the traditionalist's resistance to the term marketing and the need for its adoption into the "warp and woof" of all our practices, it would be surprising if their opinions did not mellow after reading this helpful text.

The following topics are covered by these authors' as they rather exhaustively examine aspects of dental practice which can be turned to a badly needed marketing advantage. They include — starting or altering a practice, improving business systems, marketing with staff, marketing through third party funding, rewarding patients, staff, and referral sources, retaining patients, staff, and referral sources, retaining patients, case presentation, the telephone, media advertising, etc.

An opportunity presents for the reader to consult a checklist in the Appendix Section where he can evaluate his practice and analyze its relative effectiveness in reaching out for new patients and in maintaining those he has.

I feel one oversight in this text is its failure to stress the computer and its word processing programs which will have tremendous impact on the practice's profile in the community. The computer's advantages are discussed more in the areas of front end office control and the processing of billing.

It is a "how to" text leaving few stones unturned as it presents hundreds of positive ideas to enhance your personal image and role in the community, your staff's

strength as members of the preventive, diagnostic and therapy team, and the part dental health plays in the fulfilled lives of your patients.

I commend this book as an undergrad reference source in practice management projects and to all practitioners striving for busyness and searching for constant practice improvement.

This book was reviewed by W. Walker Shortill, BSc, DDS, Dominion Dental Advisory Services Ltd, Winnipeg.

Elements of Pharmacology: A Primer on Drug Action

Peter John Bentley

*Cambridge University Press,
New York
1981 154 pages
\$27.50*

This little book deals with general concepts of pharmacology. The function of pharmacology, the author states, is to provide a rational approach to the development and use of drugs.

The book is very well written and a delight to read. It contains the essential general information for the biological scientist as well as the dentist and physician whose knowledge of pharmacology has become obsolete. The book does not provide the detailed information needed by the practitioner.

The main emphasis is on pharmacokinetics, including absorption, bioavailability, distribution, biotransformation and elimination of drugs; drug receptors and the role of the cell membrane in responses to drugs; and clinical aspects of drug action, including tolerance and dependence, drug interactions, adverse reactions to drugs, drug allergy, carcinogenic and teratogenic effects, and interactions of environmental chemicals with drugs.

Briefly discussed are topics such as techniques and methods of pharmacology, the nature of

responses to drugs, and relationship of chemical structure to biological activity.

There are only 76 literature references, but it seems to be enough. There is a short index and a list of about 170 drugs with a brief description of their nature and use. The author teaches pharmacology at New York City and his terminology is American.

We should mention the few minor points: "Esterases are plentiful in the extracellular fluid of the gastrointestinal tract, as a result of both the actions of the digestive enzymes and the activities of bacteria" (esterases are enzymes). Nortriptyline (not nortriptylene), triamteren (not triamp-terene), probenecid (not probenid-cid), amitriptyline (not amitripty-line), and echothiophate (not ecothiophate).

The author introduces a new term: "Man is a valetudinary animal (one who is constantly concerned about the state of his health), and is probably unique in this behavior. The availability of drugs for the treatment of disease offers an opportunity to indulge in this activity." An understanding of the basics of pharmacology helps the practitioner to avoid mistakes.

This book was reviewed by B.G. Bentley, MD and H.S. Katz, DDS, PhD, McGill University, Montréal.

THE TRUTH ABOUT ZOMAX*

zomepirac sodium

WE VOLUNTARILY INITIATED WITHDRAWAL OF THE DRUG. WOULD YOU HAVE MADE THE SAME DECISION?

Two years ago, ZOMAX zomepirac sodium was made available to Canadian physicians. It gained rapid

and widespread acceptance because the product is unique, filling a void in the analgesic market.

ZOMAX zomepirac sodium WAS EXTENSIVELY TESTED.

Before its introduction, ZOMAX zomepirac sodium was thoroughly tested in what could be regarded as "state of the art" clinical trials. 3600 individuals took part in an extensive evaluation program, conducted by leading investigators in the analgesic field. In comparative

studies ranging from ASA to morphine, side effects recorded for ZOMAX tablets were consistent with those reported for non-steroidal anti-inflammatory drugs as a class.

It wasn't until post-marketing surveillance that severe allergic reactions began to be noted.

THE ULTIMATE TEST: 15 MILLION ZOMAX zomepirac sodium PATIENTS.

More than 15 million patients in North America have used ZOMAX tablets in the past two years. Reported severe adverse experiences have been carefully monitored. At the time of withdrawal, there were about 1,100 reports of allergic reactions, mostly in the U.S.A., ranging from mild rash to anaphylaxis.

A year ago, after a number of anaphylactoid reactions were noted, McNEIL* Canada and U.S.A., working with the Health Regulatory officials of both countries, re-emphasized this possible adverse effect to physicians.

The situation continued to be monitored closely.

Early in 1983, McNEIL in the U.S.A. saw an acceleration in the number of reported allergic reactions (including four deaths in a two-month period). At the time of withdrawal, there were a total of five deaths reported in the U.S.A. associated with anaphylactoid reactions. Two patients were known to be sensitive to ASA (a specific contraindication for ZOMAX zomepirac sodium) and one to penicillin.

THE CANADIAN EXPERIENCE.

The number and nature of the reactions reported in Canada have not been a cause for alarm – neither McNEIL Canada nor the Health Protection Branch had been informed of any severe anaphylactoid reactions resulting in death. However, as the reports of these reactions in the U.S.A. increased in February, McNEIL (both in Canada and the U.S.A.) made a voluntary

decision to withdraw ZOMAX tablets and review prescribing patterns.

Once the decision was made, swift action was essential to alert the physician, pharmacist and patient population. The media responded very swiftly, and although certain headlines may have caused concern, we felt that rapid communication was essential.

THE CLASSIC DRUG DECISION: DOES THE RISK OUTWEIGH THE BENEFIT?

ZOMAX zomepirac sodium benefited many patients. However, the deaths reported in the U.S.A., together with the increase in the reports of allergic reactions, led us

to temporarily withdraw ZOMAX tablets while we reassess their role in the future.

WE SEE OUR RESPONSIBILITY CLEARLY.

Did we overreact? We don't think so. In accordance with our credo, we believe our first responsibility is to the health professionals, patients and all others who use our products and services. Withdrawing ZOMAX

zomepirac sodium may temporarily damage our morale, our finances, and be inconvenient to you – but when compared to the long term benefit to your patients, our course is clear.

PLEASE SHARE YOUR CONCERNS.

Your thoughts on the issues are important to us. Please let us know your comments and opinions on the actions that have been taken, and your attitude regarding

the future of ZOMAX zomepirac sodium. These should be directed to Dr. W.J. Forgiel, Director of Scientific Affairs.

 **McNEIL
PHARMACEUTICAL**

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Première Conférence de l'ADC sur l'enseignement au Congrès de Vancouver

Les mardi et mercredi, 27 et 28 septembre prochains, la Conférence de l'ADC sur l'enseignement sera tenue pour la première fois conjointement avec le prochain Congrès de l'Association dentaire canadienne.

On a adopté pour thème de cette première conférence: les concepts actuels touchant la gestion de pratique et les nouvelles méthodes pour les assimiler. Suivant l'Association des Facultés dentaires du Canada, ce choix ne pouvait être plus à-propos.

Les participants seront mis au courant des concepts enseignés actuellement dans les écoles dentaires des États-Unis aux étudiants qui exerceront la dentisterie dans les années 1980. Les sujets traités comprendront l'ergonomie et les régimes de travail efficaces, la gestion du personnel, la gestion d'entreprise, la gestion des finances et la gestion personnelle.

Conférencier principal

Le conférencier principal sera le Dr Harvey A. Strand, BSc, DDS. Le Dr

Strand est attaché au département de la dentisterie restauratrice de la Faculté dentaire de l'Université de Washington, à Seattle, et a joué un rôle important dans l'établissement du programme TEAM (*training in expanded auxiliary management*) à l'Université de Washington. Toujours praticien général, il a longtemps enseigné comment gérer une pratique partout aux États-Unis.

De 1978 à 1980, le Dr Strand a agi comme président de l'*American Association of Dental Schools Section on Practice Management*, collaborant à l'élaboration de directives pour préparer les programmes d'études en gestion de pratique.

Séance d'ouverture

Le mardi 27 septembre, à 14 heures, aura lieu la séance d'ouverture à l'hôtel Vancouver (*Social Suite*). Le Dr Strand y présentera un exposé général à l'intention des représentants des dix écoles et facultés dentaires du Canada. Tous les congressistes pourront assister à cette séance.

Le mercredi 28 septembre, les diverses séances prévues auront lieu de 9 heures à midi, puis de 14 heures à 17 heures.

Après un bref exposé préliminaire du Dr Strand sur la gestion de pratique, les représentants des facultés décriront brièvement leurs programmes respectifs touchant le sujet en question ainsi que les sujets connexes. On a prévu amplement de temps pour discuter les directives et les principes généraux et, selon toute probabilité, ces discussions donneront lieu à l'élaboration d'un rapport et de recommandations.

Les séances du mercredi s'adresseront principalement aux invités, mais d'autres observateurs y seront les bienvenus.

Le Dr Roger L. Ellis présidera la Conférence de l'ADC sur l'enseignement 1983. Le Dr Ellis est professeur et président du département des soins dentaires de la Faculté dentaire de l'Université de l'Alberta, à Edmonton.

Voyages avant et après le Congrès

On a organisé plusieurs voyages intéressants avant et après la tenue du Congrès de l'ADC.

Ces voyages comprennent une croisière en Alaska sur le célèbre "Love Boat" (du 17 au 24 septembre, circuit partant de Vancouver, sept nuits à bord); des vacances à Hawaï (du 17 au 24 septembre, sept nuits au Village Hawaïen Hilton sur la plage Waikiki); une reconnaissance à San Francisco (du 29 septembre au 3 octobre, quatre nuits dans un hôtel de luxe près de Union Square); une fin de semaine à Las Vegas (du 29 septembre au 2 octobre, trois nuits au Flamingo Hilton Hotel sur la "Strip"); une excursion à Victoria (hébergement à

l'hôtel Empress et visite des jardins Butchart, deux jours et une nuit); et une excursion dans les Rocheuses (de Calgary à Vancouver, du 21 au 24 septembre, et de Vancouver à Calgary, du 30 septembre au 3 octobre, par autocar Royal Glacier).

De plus, à l'hôtel Vancouver, les congressistes auront un vaste choix d'excursions: tour de la ville comprenant une visite de l'Aquarium, du parc Stanley, de Gastown, de Chinatown et du centre-ville (3 heures); excursion sur la Côte Nord avec vue panoramique sur le Canyon de Capilano et le pont suspendu, visite d'un établissement de salmoniculture et des domaines britanniques, et pro-

menade en "seabus" et en téléphérique à Grouse Mountain (4 heures); tour des principaux points d'intérêt de Vancouver (3½ heures); excursion à Royal Hudson, Britannia Mines et Shannon Falls (8 heures); croisière de l'Indian Arm (6 heures).

Les prix sont comme suit:
Croisière en Alaska sur le "Love Boat"

Deux personnes	1 506\$
Une personnes	2 071\$
Dépot: 400\$ par personne	

— Vacances à Hawaï

Deux personnes	800\$
Une personne	1 124\$
Dépot: 300\$ par personne	

- **Reconnaissance à San Francisco**
 - Deux personnes 619\$
 - Une personne 930\$
 - Dépôt: 250\$ par personne
- **Excursion dans les Rocheuses**
 - Deux personnes 442,75\$
 - Une personne 570,75\$
 - Dépôt: 100\$ par personne
- **Fin de semaine à Las Vegas**
 - Deux personnes 409\$
 - Trois personnes 389\$
 - Une personne 529\$
 - Dépôt: 60\$ par personne

- **Excursion à Victoria**
 - Deux personnes 139\$
 - Trois personnes 119\$
 - Une personne 189\$

L'agence de voyages officielle est: Hagen's Travel Services Ltd, 320 — 1425 Marine Drive, Vancouver (Colombie-Britannique) V7T 1B9.

Les réservations seront confirmées par le retour du courrier sur réception d'un dépôt et le solde devra être acquitté le 15 juin. Pour annuler, il faut écrire à l'agence de voyages. Jusqu'au 15 juin, vous aurez droit à un rem-

boursement complet du dépôt, moins 5\$ pour les frais d'administration. Du 15 juin au 15 juillet, la somme totale n'est pas remboursable. Et après le 15 juillet jusqu'au jour du départ, les remboursements dépendront des sommes que l'agence pourra recouvrer des organisateurs. Aussi vous conseillons de prendre une assurance annulation pour ne pas risquer de perdre la totalité des sommes que vous verserez.

L'ADC n'assume aucune responsabilité pour la qualité des services offerts par les responsables des voyages.

Congrès annuel de la FDI à Tokyo du 14 au 20 novembre 1983

Le 71^e Congrès mondial annuel de la Fédération Dentaire Internationale (FDI) aura lieu à Tokyo, au Japon, du 14 au 20 novembre prochain.

Le programme scientifique du Congrès a été bâti sur trois thèmes. Le premier, la longévité de la dentition de l'homme, sera discuté le 16 novembre par des conférenciers venant de la Finlande, des États-Unis et de la France.

Le second touche aux mesures de prévention pour favoriser la longévité de la dentition et fera l'objet des débats du 17 novembre avec des conférenciers venant de l'Allemagne de l'Est, de Sri Lanka, des États-Unis et du Royaume-Uni.

Le troisième thème discuté fera état des derniers progrès touchant les soins dentaires qui visent à accroître la longévité de la dentition. Les conférenciers choisis seront du Japon, de l'Australie, de la Nouvelle-Zélande et de l'Allemagne de l'Ouest.

Le Congrès comprendra encore des programmes des diverses commissions de la FDI et deux symposiums dont l'un portera sur les derniers progrès en dentisterie clinique et l'autre, sur l'usage de l'électronique en dentisterie. Il y aura également des séances d'intérêt général pour le monde dentaire ainsi que des rapports sur des



L'hôtel New Otani, quartiers généraux du Congrès de la FDI.



La salle Nihon Budokan où s'ouvrira le Congrès

recherches effectuées par différents groupes.

La FDI a choisi pour quartiers

généraux du Congrès l'hôtel New Otani, à Tokyo. L'Inauguration aura lieu dans la salle Nihon Budokan.

Sondage sur les ressources en personnel dentaire des Maritimes

Dans un sondage effectué sur les professions, le Comité de la main-d'oeuvre des Maritimes vient de faire parvenir à tous les dentistes qui exercent dans ces quatre provinces canadiennes le deuxième d'une série de questionnaires.

Composé de quatre membres de la Faculté dentaire de l'Université Dalhousie et de quatre secrétaires généraux provinciaux, le comité a été formé il y a quelques années pour étudier les besoins en main-d'oeuvre dentaire dans les provinces maritimes.

Le premier questionnaire a été distribué en 1980 et on compte en distribuer un tous les deux ans jusqu'à ce qu'on ait recueilli assez de données touchant l'orientation et les besoins de la main-d'oeuvre dans les Maritimes.

Le Dr Bruce Bowden, président du comité et secrétaire général de l'Asso-

ciation dentaire de Terre-Neuve, a déclaré que le sondage est effectué pour répondre à une question posée par la profession dentaire des Maritimes qui craint de compter un effectif trop nombreux.

"On espère qu'après ce deuxième questionnaire, le comité disposera de suffisamment de données pour faire des recommandations à l'Université Dalhousie touchant les besoins futurs des ressources en personnel," a commenté de Dr Bowden. L'Université Dalhousie est la principale institution des Maritimes à former des dentistes.

Toutefois, le Dr Bowden a souligné que le comité ignore tout à fait quels seront les résultats du sondage. "Nous n'avons pas organisé ce sondage pour livrer combat à l'Université Dalhousie," a-t-il observé.

"Les résultats pourront aller dans un sens comme dans l'autre, et le comité tâte seulement le terrain de la main-d'oeuvre dentaire afin d'être utile à l'Université Dalhousie. Quand

nous connaissons les résultats du sondage, le comité pourra soit appuyer le programme actuel de l'université et approuver le nombre des étudiants en dentisterie, soit prévenir celle-ci qu'on n'aura pas besoin d'autant de diplômés à l'avenir."

Pour sa part, le Dr John Isenor, membre de la Faculté dentaire de l'Université Dalhousie et du Comité de la main-d'oeuvre, a déclaré que le comité n'a pas recueilli jusqu'à maintenant assez de renseignements sur l'effectif dentaire des Maritimes pour faire quelque recommandation que ce soit.

"On doit se rappeler," a remarqué le Dr Bowden, "que toute recommandation du comité après le sondage n'aura aucune répercussion avant quatre ou cinq ans."

Le sondage des prochaines années est conçu justement pour fournir au comité les renseignements essentiels qu'il désire touchant les ressources en personnel dentaire.

Photo couverture

Du 12 au 15 juin, à Jasper (Alberta), se tient le Congrès mixte de la Société dentaire de l'Ouest du Canada et de l'Association dentaire de l'Alberta.

Sur la photo de la couverture qui nous a été gracieusement fournie par l'Office de tourisme du Canada, on aperçoit le *Jasper Park Lodge* qui sert de quartiers généraux durant la tenue du congrès.

Le congrès a adopté pour thème: "Etre en forme physiquement et financièrement."

Pendant ce temps, les Associations des hygiénistes et des assistantes dentaires de l'Alberta tiennent une conférence à Jasper également. Leurs quartiers généraux se trouvent à l'hôtel Sawbridge.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 28 février 1983.

<i>Fonds d'actions ordinaires</i>	\$65.4537
<i>Fonds à revenu fixe</i>	\$34.8133
<i>Fonds garanti</i>	\$25.5898
<i>Fonds de placement</i>	\$13.4029

L'avoir total (valeur marchande) du régime s'élevait à \$35,324,279.

Au 31 janvier 1983, les chiffres du mois précédent étaient les suivants:

<i>Fonds d'actions ordinaires</i>	\$63.5503
<i>Fonds à revenu fixe</i>	\$34.0694

<i>Fonds garanti</i>	\$25.3965
<i>équilibré</i>	\$13.1466

L'avoir total (valeur marchande) du régime s'élevait à \$34,027,955.

Pour de plus amples renseignements, veuillez écrire à l'adresse suivante: Canadian Dental Service Plans Inc., Ste. 600, 2 Lansing Square, Willowdale, Ontario M2J 4Z3, ou appeler le service de renseignements du CDSPI en composant 1-800-268-5418 (appel sans frais pour l'Ouest canadien, les Maritimes et l'Ontario où le code est 807 seulement), 1-800-268-3411. (appel sans frais pour le Québec et l'Ontario sauf où le code est 807), et 497 7117 (Région métropolitaine de Toronto).

Rejet d'une demande d'assurance — CDSPI

Si jamais une compagnie d'assurance rejetait votre demande pour une assurance-vie, une assurance invalidité prolongée ou une assurance des frais généraux, vous seriez sans doute grandement étonné et vous vous poseriez plusieurs questions: Pourquoi me refuse-t-on? Qu'est-ce qui ne va pas? Que faire?

En premier lieu, vous devez communiquer avec les Régimes des rentes et d'assurance de l'ADC (CDSPI) où tout sera fait pour vous venir en aide. On vous demandera de donner à votre compagnie d'assurance l'autorisation de dévoiler des renseignements à votre médecin traitant. Celui-ci sera alors en mesure de discuter le problème avec vous et si vous n'êtes pas d'accord, tous deux, au sujet de la décision prise par la compagnie d'assurance, votre médecin pourra lui faire parvenir une lettre en conséquence. On remarque souvent que, lorsqu'un médecin écrit à une compagnie d'assurance, il fournit des renseignements supplémentaires qui peuvent avoir des conséquences importantes pour résoudre le problème.

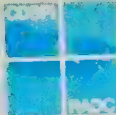
Ayant vérifié les nouveaux renseignements et révisé votre dossier tout entier, la compagnie d'assurance pourra exiger que vous vous fassiez examiner par un spécialiste ou que vous vous soumettiez à d'autres tests. La révision finale entrainera plusieurs possibilités. Par exemple:

- a) la première décision sera renversée comme vous l'avez demandée;
- b) la première décision sera maintenue et la demande rejetée;
- c) on vous proposera un régime d'assurance personnel, indépendant du Régime d'assurance des dentistes du Canada;
- d) on repoussera votre demande d'environ un an, vous proposant de la soumettre à nouveau le délai écoulé.

Il importe que vous compreniez bien que le Régime d'assurance des dentistes du Canada vous permet de contester les décisions prises par une compagnie d'assurance.

Si vous désirez de l'aide ou plus de renseignements, veuillez communiquer avec les CDSPI par l'intermédiaire du Service central de renseignements:

Téléphone	Régions
1 800 268 5418	les provinces de l'Ouest, les provinces maritimes et la partie de l'Ontario dont le code régional est 807
1 800 268 3411	le Québec et les parties de l'Ontario dont le code régional n'est pas 807
497 7117	la région de Toronto
On écrivez à:	CDSPI 600 - 2 Lansing Square Willowdale (Ontario) M2J 4Z3

 Le régime d'assurance des dentistes du Canada

BULLETIN

Renseignements importants sur vos assurances



Les renseignements que contient votre dossier sont confidentiels. Lorsque vous appellerez notre Service de renseignements, nous nous assurerons par quelques questions que vous êtes effectivement le participant. Aucun renseignement contenu dans votre dossier ne sera jamais fourni par téléphone à personne d'autre que vous, pas même votre conjoint ou vos collaborateurs. Le CDSPI ne peut révéler aux agents d'assurance ou aux consultants ou encore aux établissements financiers aucun renseignement sur vous sans votre autorisation écrite.

Pour un service personnalisé ou pour tout problème d'assurance, contacter le Service de renseignements du CDSPI, à n'importe quelle heure, sans frais :

- 1.800.268.54.18 Provinces de l'Ouest, provinces atlantiques et région de l'Ontario avec l'indicatif régional 807
- 1.800.268.34.11 Québec et Ontario, sauf pour la région avec l'indicatif régional 807
- 497.71.17 Toronto et environs

 Le régime d'assurance des dentistes du Canada

Régimes parrainés par vos associations dentaires nationale et provinciales et administrés par le Canadian Dental Service Plans Inc. 2, square Lansing, Bureau 600, Willowdale, Ontario, M2J 4Z3

En bref —

Le Conseil d'administration de l'Association des chirurgiens dentistes du Québec vient d'élire ses nouveaux officiers. Le Dr Claude Chicoine a été élu président; le Dr Daniel Pelland, directeur administratif; le Dr Micheline Blain, première vice-présidente; le Dr Yves Giguère, second vice-président; et le Dr Daniel Montminy, trésorier.

Les Drs Gaston Michaud, Pierre Corbeil et Gilles Dubé ont été élus membres du Conseil.

"C'est la guerre!" a déclaré le Dr Ray Wenn, secrétaire-trésorier de l'Association dentaire de l'Île-du-Prince-Édouard, après que le gouvernement provincial eût restreint le régime dentaire pour enfants.

En vigueur depuis environ 12 ans, ce régime touchait les enfants âgés de 4 à 16 ans inclusivement.

En vertu du nouveau budget provincial, les enfants de 4 à 12 ans seulement pourront profiter du régime. De plus, les subventions ont été réduites d'un demi million de dollars.

"Nous croyons que le régime dentaire pour enfants était excellent et a donné de bons résultats durant plusieurs années," a remarqué le Dr Wenn. "Ces restrictions vont toucher de 7 000 à 8 000 enfants."

On a déjà entrepris une campagne pour contrer la décision du gouvernement. Jusqu'à maintenant, l'Association dentaire de l'Île-du-Prince-Édouard a reçu un appui favorable des média et on prévoit que ceux-ci continueront à s'intéresser à l'affaire.

"Nous avons l'intention de prévenir tous les membres de l'Assemblée législative et de faire connaître nos opinions," a conclu le Dr Wenn.

La Société dentaire du Nouveau-Brunswick (SDNB) a tenu son assemblée annuelle le 16 avril dernier et procédé à l'élection de ses nouveaux officiers.

Le nouveau président est le Dr R.A. Turcotte de Saint-Jean (N.-B.), le président désigné est le Dr P.F. Cyr

de Bathurst et le président sortant est le Dr J.W. McMullen de Frédéricton. Le Dr J.G. Thompson continue à cumuler les fonctions de directeur administratif et de secrétaire.

Selon ce dernier, la SDNB a adopté deux résolutions importantes lors de l'assemblée, la première visant à appuyer la loi provinciale qui oblige les automobilistes à boucler leur ceinture.

Dans la seconde, la SDNB réaffirme son appui au programme du ministère provincial de la Santé incitant la population à se rincer la bouche.

Les principaux conférenciers invités comprenaient le ministre provincial de la Santé et le président de l'ADC, le Dr W.R. Thompson.

Le Dr Donald James O'Connor, d'Ottawa (Ontario), a été nommé président du Congrès de l'Association dentaire canadienne pour 1985.

Diplômé de la Faculté dentaire de l'Université de Toronto en 1958, le Dr O'Connor exerce la dentisterie générale depuis cette date à Ottawa.

Ancien président de la Société dentaire d'Ottawa et secrétaire fondateur de l'*Ottawa Dental Study Club*, le Dr O'Connor a en outre été un administrateur de l'Association dentaire de l'Ontario pendant six ans. Par ailleurs, il a déjà été président et secrétaire de la Société pour la prévention des maladies dentaires d'Ottawa. Enfin, il est membre du Collège international des dentistes.

Le Congrès de l'Association dentaire canadienne 1985 aura lieu du 29 septembre au 2 octobre.

Le 12 avril dernier, l'Association des hôpitaux du Canada a emménagé son siège social dans un immeuble du patrimoine situé dans la zone du marché Byward d'Ottawa, au 17 de la rue York. L'AHC occupe les deux étages supérieurs de l'immeuble qui en compte cinq, ainsi que le rez-de-chaussée et le sous-sol.

Le président du Conseil d'administration, Mons. J. David Innes, C.R., a

présidé les cérémonies officielles de l'inauguration. Mme Monique Bégin, ministre de Santé et Bien-être social Canada, et Mme Marion Dewar, maire d'Ottawa, lui ont fait part de leurs meilleurs vœux.

Le président de l'AHC, Mons. Jean-Claude Martin, accueillait les invités, tandis que les membres du personnel de l'AHC leur faisaient visiter les nouveaux locaux.

Ont emménagé dans le même immeuble le Collège canadien des directeurs de services de santé, l'Institut canadien de la santé infantile et le Nursing Unit Administration Program.

D'après le Dr B.P. Martinello, directeur administratif de l'Association dentaire de l'Alberta, la campagne du Mois national de la santé dentaire semble avoir été un succès en Alberta.

Pour trois jeunes Albertains tout au moins, le mois d'avril aura été particulièrement heureux. En effet, on leur a remis 75\$ pour avoir participé au concours d'affiches du MNSD. Leurs affiches ont été envoyées au siège social de l'ADC, à Ottawa, où seront désignés les gagnants des trois catégories d'âge. Les gagnants nationaux méritent une bicyclette.

Le 5 avril dernier, la Société dentaire de l'Alberta offrait un dîner auquel elle a invité les trois gagnants provinciaux et les membres de leurs familles. À cette occasion, on leur a remis leur prix en argent.

Erratum

Dans notre numéro de mars, nous disions que l'adhésion à l'ADC est obligatoire pour être éligible aux régimes d'assurance de l'ADC. Il aurait fallu lire: l'adhésion à une association provinciale ou à l'ADC est obligatoire pour être éligible aux régimes d'assurance de l'ADC.

Nous prions nos lecteurs d'excuser cette imprécision et les ennuis qu'elle aura pu causer.

La rédaction.

10 % de plus de garantie en assurance du contenu et des pertes d'exploitation

Pour conserver leur plein effet aux garanties qui couvrent votre cabinet et son contenu, et les revenus que vous en tirez, vos montants de garantie en assurance du contenu et des pertes d'exploitation seront automatiquement relevés de 10 % le 1^{er} juillet si vous êtes assuré par l'entremise du régime d'assurance des dentistes du Canada.

Cette augmentation vous sera directement facturée. Toutefois, il n'est pas question de forcer les participants à accepter des suppléments dont ils n'ont pas besoin.

Si vous ne désirez pas profiter de cette augmentation, veuillez en avertir le CDSPI sans tarder.

Ce genre d'augmentation compense en partie les effets de l'inflation sur vos montants de garantie. C'est là l'une des manières dont le régime d'assurance des dentistes du Canada s'efforce de vous faciliter la gestion de vos assurances... tout en vous faisant réaliser des économies.

Le moment est peut-être aussi venu de revoir vos garanties. Même avec 10 % d'augmentation vous pouvez être dangereusement sous-assuré en raison de ce que coûterait aujourd'hui le remplacement du contenu de votre cabinet. Si vous désirez augmenter vos montants de garantie de plus de 10 % veuillez écrire au CDSPI.

Si vous ne participez pas au régime d'assurance des dentistes du Canada, vous pourriez peut-être penser à comparer nos tarifs et nos contrats à ceux que vous avez actuellement.

Souvenez-vous
que le régime d'assurance des dentistes du Canada est conçu pour profiter aux dentistes, à personne d'autre.

Pour un service personnalisé ou pour tout problème d'assurance, contacter le Service de renseignements du CDSPI, à n'importe quelle heure, sans frais :

1.800.268.54.18

Provinces de l'Ouest, provinces atlantiques et région de l'Ontario avec l'indicatif régional 807

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Québec et Ontario, **sauf** pour la région avec l'indicatif régional 807

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**Le régime
d'assurance
des dentistes
du Canada**

Jagger Dent

The special tool that makes it easy to remove bridges and individual crowns (both for re-use and for scrap). It has caused something of an international sensation.

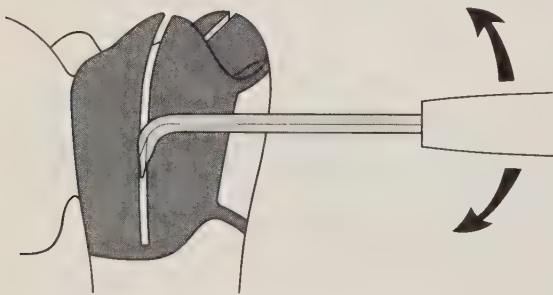
A new technique for removing bridges.

It is best to begin with an index registration of the bridge while it is still in place.

Having done that, cut through the metal lingually to the preparation. Experience suggests that an 0.8 mm fissure drill is a suitable instrument for the purpose. The cut must extend from the top of the preparation to within 0.5 mm of the edge of the crown. The remaining uncut part provides a check that the circumference of the crown around the preparation has not changed.

After cutting all the supports in this way, expand the crown by inserting the Jagger Dent in the cut. This will break away the remaining join at the edge of the crown, allowing the bridge to be removed.

Check the fit by replacing the bridge.



Then make an impression of the bridge. If the bridge was removed on account of a solder fracture, make a solder impression. If the bridge is to be enlarged, make a full impression. An impression of the opposing arch must be made too.

Fractures, if any, are repaired and the cuts are closed by soldering at the laboratory. After adjustment and/



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Price per set of two stainless steel Jagger Dents
70 CAD, exclusive of sales tax.

We wish to order _____ set(s) of Jagger Dent.

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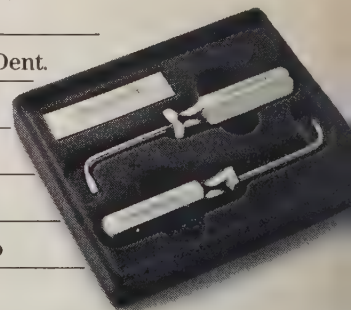
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Dental care for cancer patients

W.T. McGaw, DDS, MSc

J.H.P. Main, BDS, PhD, FDSRCS, FRC(Path), FRCD(C)
Toronto, Ont.

SUMMARY

Adequate attention to the special oral needs of the cancer patient should complement advances in cancer therapy and ensure that the benefits of increasing longevity or cure are not accompanied by needless oral discomfort and disability. The dentist can offer considerable expertise and assistance in a team approach to these problems.

Advances in therapy continue to add productive years to the lives of cancer patients and in many instances result in permanent cure. The primary concern in cancer therapy is control of the disease, but patient care must also include consideration of post-treatment comfort and rehabilitation needs. The oral and dental problems of cancer patients can be divided into those attributable to the primary disease and those associated with the treatment modalities. In addition to oral cancers, it has been estimated that over 30 per cent of patients with malignancies not involving the head and neck, develop oral complications in relation to their disease or its therapy.¹

The key to successful total patient care is a coordinated effort in which there is close cooperation between the various disciplines involved. In the initial evaluation of oral health status, precancer treatment dental care should be planned and potential oral complications and future rehabilitation needs anticipated. Such oral evaluation necessitates a dentist on the treatment team. The purpose of this paper is to delineate the dental and oral considerations in management of cancer patients.

RADIOTHERAPY

The successful application of radiation in cancer therapy is based on the differential sensitivity and potential for recovery between tumor cells and normal tissues.² However, in practice, a certain amount of damage to normal tissues is unavoidable. The oral mor-

SOMMAIRE

Une attention adéquate apportée aux besoins bucco-dentaires particuliers d'un patient atteint de cancer doit compléter les progrès réalisés dans les traitements du cancer et assurer que les avantages d'une plus longue vie ou d'une guérison ne s'accompagnent pas de malaises inutiles ou d'infirmité dans la bouche. Le dentiste peut offrir une expérience et une aide précieuses dans un effort collectif pour résoudre ces problèmes.

bidity during radiotherapy of head and neck cancers is a consequence of damage to salivary glands, oral mucosa, mandibular bone and blood vessels in the area.³

Mucositis

The epithelium of the oral mucosa has a high rate of turn over and is therefore relatively radio-sensitive. Erythema develops early in the course of therapy and later, injury to the germinal layer of the epithelium results in progressive mucosal atrophy, such that minor degrees of trauma may induce painful erosions and ulcerations. Vascular dilatation and congestion in the injured lamina propria produce the fiery-red appearance, perhaps with superimposed ulceration and necrotic slough, characteristic of radiation mucositis.⁴ The associated discomfort and diminished taste sensation can result in a decreased food intake and undermine the patient's nutritional status. Most of these mucosal manifestations resolve in two or three weeks after completion of therapy.⁵

Treatment of acute radiation mucositis consists essentially of palliative measures to minimize discomfort and ensure the maintenance of a reasonable nutritional status. Dilute solutions of 50 per cent milk of magnesia⁵ or two per cent sodium bicarbonate mouthwashes are soothing. Viscous xylocaine may be employed topically. While the grey-white epithelial slough bears a strong resemblance to oral candidiasis and can be misleading, a candidal over-

growth is not unusual in this situation.^{3,4,6} Identification of mycelia and pseudohyphae as opposed to simple yeast forms on stained smear preparations, suggest an established infection. In the non-immunosuppressed individual, topical nystatin is effective and adequate therapy. The most effective preparation for this purpose is the vaginal tablet which ensures a more sustained action when sucked three times daily than the use of a nystatin suspension.

Effects on salivary function

The salivary gland parenchyma is vulnerable to radiation injury.^{4,7} Malfunction of only one or two of the major salivary glands usually will not produce symptoms of xerostomia.⁸ However, the use of parallel opposed fields usually induces considerable changes.^{9,10} It has been found that a dose of as low as 1000 rads can produce a reduction in salivary flow, accompanied by an increased viscosity.⁹ The maintenance of oral health requires saliva of a normal quantity and quality and, in normal circumstances, a sheet on the mucosal surface moves slowly but constantly posteriorly, carrying bacteria and particulate debris to be swallowed periodically. The decreased volume with increased viscosity permits food particles to adhere tenaciously to the tissues; the patient, having trouble masticating a normal diet, shifts to a soft diet, low in fibre content and usually high in carbohydrate, which compounds the threat of irradiation caries.^{4,9-11}

Dental caries

Normally, saliva exerts direct inhibitory influences on the carious process. Its buffering capacity and high mineral content partially counteract the demineralizing

effect of acidogenic bacteria.¹² Antibacterial factors such as lysozyme and immunoglobulins are also operative.¹³ Following bilateral parotid irradiation, the pH of whole stimulated saliva has been shown to decrease to pH 4-5, which approaches the critical pH at which enamel demineralization occurs.^{10,14,15} The changes in volume and quality of saliva are accompanied by changes in the oral microflora, with a prominent increase in cariogenic bacteria.^{10,16} The net effect of these changes is a predisposition to the rapid development of widespread caries, which characteristically shows circumferential cervical involvement of the teeth (**Figs. 1 and 2**). Even tooth surfaces that normally are relatively immune to caries, such as incisal edges or cusp tips, may be affected.^{9,10} It is not unusual for the caries to amputate teeth at the gingival margin. Extension of caries to the dental pulp and spread of infection to the periapical tissues carries infection into bone.

Initially, it was proposed that radiation caries was the result of direct radiation damage to the teeth themselves. However, no changes in enamel solubility or chemical composition can be demonstrated following irradiation.¹⁷ Exposure of the teeth to 7000 rads of cobalt-60 radiation has been shown to produce no histologically detectable damage.¹⁸ However, the cervical areas of the teeth tend to become hypersensitive¹⁴ and this change, in conjunction with the increased mucosal susceptibility to minor traumatic injury, may indirectly predispose to increased caries because the patient is discouraged from brushing his teeth. In the presence of rapidly progressing radiation caries, teeth not exposed to irradiation generally are affected to the same extent as teeth in the direct path of the beam.¹⁴ It is now generally accepted that the increased predisposition to caries is the result of altered salivary function.

In addition to the effect on caries incidence, post-irradiation xerostomia also aggravates the mucosal effects of irradiation by virtue of the loss of the protective lubricant film provided by saliva.¹¹ Depending on the dose and field of irradiation, some degree of salivary function usually returns several months following therapy. However, therapeutic doses generally produce permanent impairment.⁴

Many saliva substitutes have been devised but unfortunately it is not possible to duplicate the autonomy of normal salivary function. If sufficient residual functional tissue remains, sugarless lemon drops may stimulate saliva production to adequate levels. The simplest saliva substitute is a preparation of glycerine diluted 1:1 with an agreeably flavoured mouthwash.⁵ Shannon et al¹¹ have described a saliva substitute, which approximates the viscosity and electrolyte concentrations of stimulated whole saliva. All of their patients reported subjective relief of oral symptoms, with beneficial effects lasting up to three hours. Furthermore, the preparation was shown to produce significant rehardening of acid-softened enamel.

Before the development of supervoltage techniques, with the attendant diminished risk of osteoradionecrosis,⁴ it was common practice to extract all remaining teeth pro-

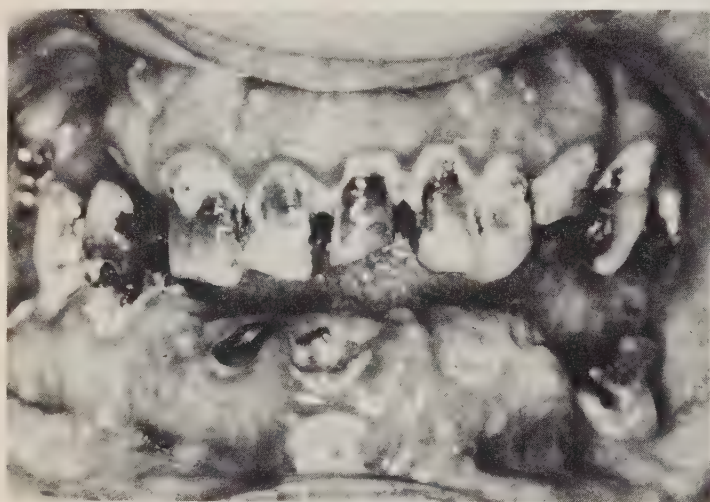


Fig. 1 Extensive cervical caries secondary to post-irradiation xerostomia.

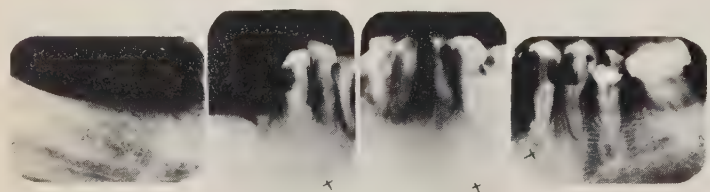


Fig. 2 Radiation caries as depicted radiographically.

phylactically. Several studies have demonstrated that with appropriate dental management and, more importantly, good patient compliance, teeth may be maintained in a healthy state in spite of aggressive radiation.^{3,10,19,20} The need for excellent patient cooperation cannot be overemphasized. The tissue effects of radiation and their potentially serious consequences must be explained carefully so that the patient appreciates the importance of the preventive measures for which he/she must accept personal responsibility. Before deciding on treatment, the dentist should evaluate the caries involvement, periodontal status, and evidence of periapical infection, as well as the level of oral hygiene and patient motivation. Obviously, there are patients, still the majority, where total extractions are the only prudent course. The heavy drinker and smoker with poor oral hygiene and dentition, an individual at high risk of developing oral cancer, obviously has little respect for his health and is unlikely to undertake the intensive home care measures required to maintain the teeth. However, any evidence that the patient's oral hygiene is less than ideal should be an indication for tooth extractions, rather than conservation.

For the patient whose teeth are to be conserved, caries can be treated promptly with permanent fillings or temporary dressings, if time considerations so dictate, without necessitating a significant delay in radiation therapy. A thorough periodontal scaling and polishing should be performed at the same time. The necks of the teeth often become hypersensitive within a few months of therapy in the absence of any apparent decay,¹⁴ and this discourages brushing. Application of desensitizing pastes during the dental follow-up appointments generally controls this problem.

The greatest risk of radiation caries is during the first six months.^{4,21} Dental management should consist of prompt restoration of any developing caries, careful instruction and monitoring of oral hygiene procedures, and daily self-administered application of topical fluoride preparations.

The efficacy of topical fluoride application in reducing caries incidence in these patients is well established.^{3,5,10,14,20} The fluoride ion is adsorbed to the surface enamel and can substitute for the calcium ion in the mineral structure forming fluorapatite, which exhibits decreased acid solubility.²² Custom vinyl trays are easily fabricated in the dental department for use in the daily five-minute application of 1-2 per cent acidulated phosphate fluoride gel. Some patients find this gel somewhat irritating to the mucosa, in which case a 0.5 per cent sodium fluoride gel may be substituted.

When pre-radiotherapy dental extractions are indicated, it is important to perform a careful conservative alveoloplasty because irradiated bone does not remodel well and sharp edges will persist.^{14,15} The alveoloplasty also aids in establishing primary soft-tissue closure. A 10- to 14-day healing period is desirable but when radiotherapy

is urgently needed, a shorter healing time following careful surgery need not be associated with a significantly greater risk and should not be regarded as completely unacceptable.²³

Chronic periodontitis

Radiotherapy produces striking changes within the periodontal supporting tissues. There is a loss of organization of the principal fibre groups and a severely decreased cellularity. The number and calibre of the vessels is decreased concomitantly.²⁴ These changes probably account for the rapid exacerbation of chronic periodontitis and resultant mobility or loss of teeth, which often follows radiotherapy. Stringent oral hygiene measures and regular scaling and prophylaxis by the dentist may control this potential complication but, if the disease is well established, further extractions may be needed.

Osteoradionecrosis

The most serious consequence of radiotherapy of head and neck cancers is osteoradionecrosis, characterized by pain, chronic mucosal ulceration and chronic osteomyelitis, often with sequestration (**Fig. 3**). The supervoltage modalities in common usage today are associated with less bone and vascular damage than orthovoltage techniques^{4,18,25} and, as a result, the risk of osteoradionecrosis has considerably lessened. However, in a series of 404 patients irradiated for cancer in the oral region, between 1971 and 1975, with adjunctive, thorough conservative dental care, 19.1 per cent developed radiation necrosis of

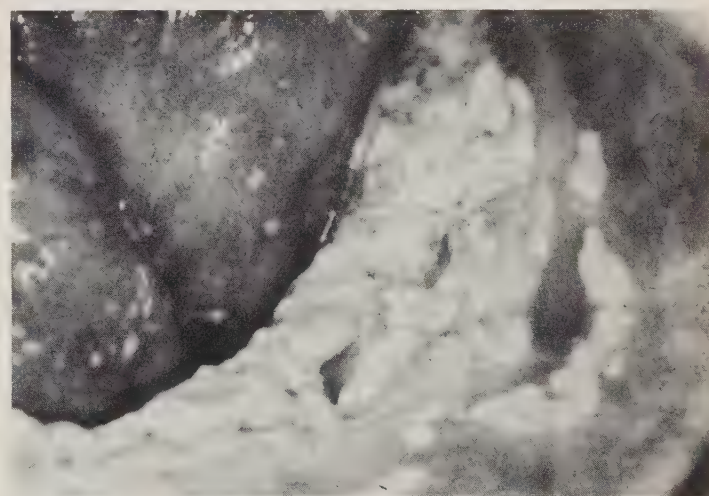


Fig. 3 (a) Osteoradionecrosis. Mandibular edentulous ridge demonstrating chronic mucosal ulceration with exposure of necrotic bone.



(b) Radiograph of case in (a) above.

the mandible.²⁶ The incidence in most series is proportional to the radiation dosage.^{3,15,24,27} Experimental studies have demonstrated that irradiation quickly reduces the number of viable osteoblasts and osteoclasts.^{2,24} Subsequently, the gradual development of obliterative endarteritis, characterized by fibrous thickening of the intima at the expense of the lumen, seriously compromises the blood supply to the bone.² Combined radiotherapy and surgical management with radical neck dissection greatly increases the risk because the branches of the external carotid artery, which supply much of the blood to the mandibular mucosa and periosteum, are routinely sacrificed in these procedures.^{14,15}

This complication can arise from one month to many years after therapy.^{14,27} The mandible is much more frequently affected than the maxilla by virtue of its less extensive collateral circulation. While localized infection often initiates the disease, e.g., dental extraction, periapical infection, periodontal infection, denture trauma or injury from foodstuffs, it may appear in the absence of any apparent local triggering factor.²⁸

The danger of dental extractions performed after radiotherapy to the jaw may have been somewhat exaggerated.^{3,14} If performed with care and under prophylactic antibiotic coverage, such extractions rarely precipitate osteoradionecrosis. It is advisable to limit the extractions to two or three at a time in order to avoid overtaxation of a compromised blood supply. Although root-canal therapy for teeth in irradiated jaws has been advocated,¹⁹ we believe it is best avoided.

A significant percentage of osteoradionecrosis follows denture trauma.¹⁵ While some have advocated that dentures should not be constructed for as long as six months to one year after irradiation,^{4,5} we have found that by one month the acute mucositis has usually resolved and the tissues are in reasonable condition, unless dosage has been unusually high. It is advisable to have dentures fabricated and the difficult adjustment phase completed at this time, because subsequent vascular changes will greatly diminish resistance to mucosal trauma.¹⁴ Permanent soft liners may be incorporated into the denture design to minimize tissue stress.⁵ It may be necessary to see the patient on a daily basis during the first two weeks of denture wear, to ensure proper adjustments of the occlusion and denture base.

If osteoradionecrosis develops, the best management is conservative. Most cases are self-limiting and heal with minimal spontaneous sequestration.^{3,27,28} When the ulceration is noted, any causative elements such as denture irritation should be immediately corrected. Gentle irrigation with saline or chlorhexidine rinses minimize the danger of secondary infection. Panoramic radiographs are useful for determining the extent of bone involvement. Gentle removal of loose sequestra prevents excessive soft-tissue irritation, while antibiotics are indicated in the presence of evidence of frank infection. Stubborn exam-

ples may respond well to hyperbaric oxygen therapy²⁹ but intractable disease may force surgical resection.

CHEMOTHERAPY

Antineoplastic agents are now used widely in many cancer therapy regimens.³⁰ Complications encountered stem from the lack of selectivity of effect on tumor versus normal tissues.³¹ Combination chemotherapy may achieve synergism of tumoricidal effect, with a wider distribution of toxicity, and hence a relative lessening of individual drug side effects.^{6,30} However, the rapidly dividing cells of the bone marrow and the epithelial lining of the alimentary tract are very susceptible to injury.^{30,31} The added burden of repeated exposure to physical, chemical, thermal and microbial insults makes the oral cavity a focal point for hemorrhagic, infectious and cytotoxic complications of cancer chemotherapy.⁶

The chemotherapy agents interfere with division and maturation of the oral epithelium, leading to atrophic changes and ulceration. Some of the drugs are more stomatotoxic than others. Oral ulcerations are most commonly associated with bleomycin, in particular, methotrexate, 5-fluorouracil, Adriamycin, and actinomycin-D.³⁰⁻³² In addition to the antiproliferative influence, several of the antibiotic class of antineoplastic drugs, notably actinomycin-D and Adriamycin, have been shown to be directly cytotoxic to oral mucosa.^{6,32}

The soft tissue lesions are characterized by crater-like ulcers with a wide diffuse erythematous border that form several days after first administration of the drug (**Fig 4**). While in the majority of patients the ulceration is fairly small and circumscribed, in occasional cases extensive ulceration develops along the sides of the tongue and on the buccal mucosa at the level of the occlusal plane (**Fig. 5**). Such ulceration is very painful and necessitates a fluid diet and sometimes withdrawal of the drug. Soft plastic bite splints have been found useful to protect the tongue margins and buccal mucosa from direct friction during mastication — both as preventive appliances and in established cases of ulceration.

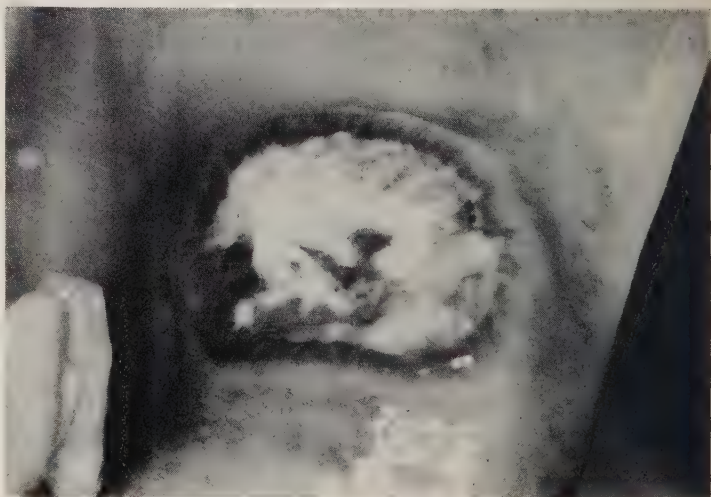


Fig. 4 Oral mucosal ulceration and bacterial overgrowth in patient receiving combined chemotherapy.

It is hardly surprising that infectious oral complications arise in these patients. Chemotherapy has been shown to be associated with leukopenia, inhibited antibody response and reduction of cellular immunity to varying degrees.⁶ Furthermore, atrophy and/or ulceration of the mucosa decreases the local tissue barrier to infection. An effective regimen for bathing the tissues, guarding against infection and controlling *Candida* in the ulcerations involves alternating rinses of nystatin oral suspension, sodium bicarbonate solution and 0.5 per cent povidone iodine solution, with two-hour intervals between rinses.³⁰ Viscous xylocaine can be used effectively to relieve painful ulcerations during meals. In cases of opportunistic overgrowth of *Candida albicans* which are not readily managed with nystatin therapy, parenteral amphotericin B is indicated.^{6,32}

A high proportion of the infections, which develop in these patients, are caused by opportunistic, aerobic, gram-negative bacilli.^{6,32} No one antibiotic is equally effective against all strains of these bacteria. Broad-spectrum coverage should be instituted immediately to minimize the danger of gram-negative sepsis until results of culture and sensitivity test are available.

Hemorrhagic complications arise on the basis of several mechanisms. Thrombocytopenia can result from direct marrow suppression,⁶ with platelet levels sometimes dropping to less than 10,000/mm³ during intensive chemotherapy.¹⁴ Damage to the intestinal tract or liver³⁰ may result in deficient production of the vitamin-K-dependent clotting factors. Thromboplastic substances released during the rapid destruction of cells can result in a consumptive coagulopathy.⁶ As a result, oral petechiae and ecchymosis following minor trauma and marked gingival bleeding are not uncommon. Application of a periodontal dressing is useful in management of such hemorrhage.^{14,30} Hemorrhagic tendencies may be so pronounced at the nadir of platelet levels with intensive chemotherapy that the patient may have to temporarily abandon brushing and flossing, and resort to vigorous

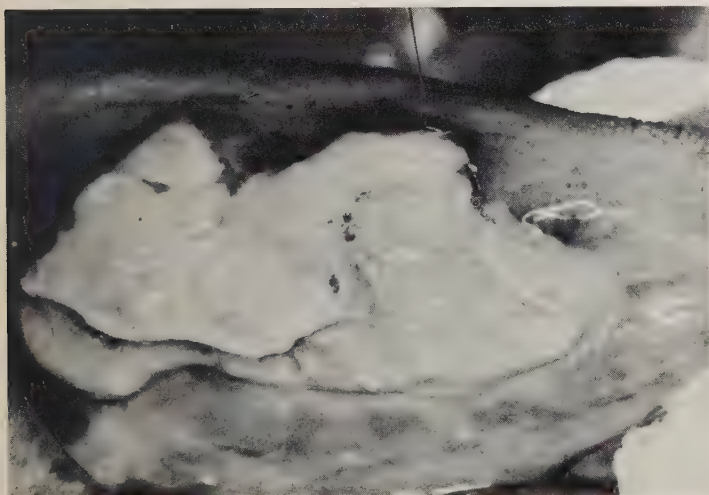


Fig. 5 Extensive ulceration and candidal infection following minor occlusal trauma to tongue of patient undergoing combined chemotherapy.

rinsing and use of chlorhexidine mouthwash as an interim measure.

Pre-existing periodontal disease exacerbates the hemorrhagic complications of chemotherapy. A chronic subclinical periodontal inflammation may become acute in these immunosuppressed neutropenic patients. Chlorhexidine seems effective in controlling gingivitis for short periods, particularly during acute episodes in leukemic patients or during intensive chemotherapeutic courses when normal oral hygiene measures are often abandoned. Loe and Schiott³³ reported that use of a 0.2 per cent solution will produce a 98 per cent reduction in the total number of commensal organisms.

Vincristine can produce a mixed sensorimotor neuropathy, which may affect cranial nerves V and VII, resulting in weakness of facial or masticatory muscles, orofacial paresthesias, and occasionally, paroxysmal jaw pains.⁶ A complete dental evaluation is indicated in such cases to rule out local disease as a cause for the pain.

Antineoplastic therapy can produce a transient xerostomia due to effects on the salivary glands.³⁰ Management is that discussed in the case of radiation-induced xerostomia.

In general, elective dental treatment should be avoided during chemotherapy, particularly in the presence of acute oral side effects. An attempt should be made, where possible, to stabilize the dental condition before therapy so as to eliminate potential foci of infection or sources of mucosal irritation. If a dental extraction is necessary during chemotherapy, it is imperative to consider the status of the patient's hemostatic system and his susceptibility to infection, and then to take the necessary precautions.

LEUKEMIA

Over 85 per cent of patients with leukemia exhibit oral complications at some stage of their disease.³⁴ Acute monoblastic forms produce the most frequent oral manifestations, with striking gingival enlargement.¹⁴ The most common complications — infectious, hemorrhagic and ulcerative,³⁵ all are manifestations of the severe abnormalities of the marrow elements. The ulcerations are the result of the absolute and functional deficiency of leukocytes with impaired resistance to infection.³⁴ Management is essentially as discussed for chemotherapy complications. Necessary dental procedures should be performed during remissions or otherwise will require careful medical management to control infection and hemorrhage. Transfusions often are necessary for this purpose.³⁵

MAXILLOFACIAL PROSTHETICS

Prosthodontic appliances may be needed in both the treatment and rehabilitation of the oral cancer patient.

Although external-beam radiation is now employed,

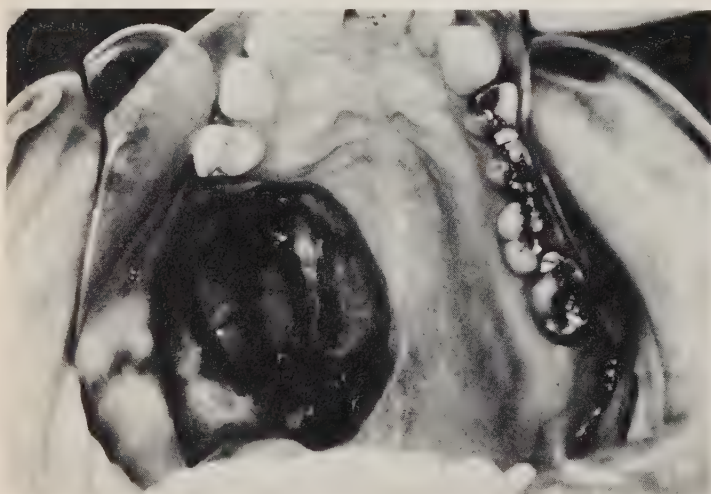
local radiotherapy is still used occasionally, with the advantage that susceptible normal tissues in the area may receive lower doses of radiation. For instance, lingual carcinoma may be treated by radium needles, and fabrication of a custom-made stent to position the tongue may decrease bone exposure.²⁸ Custom-made appliances have also been used to carry the radiation sources and position these in a pre-determined reproducible position relative to the tumor.²⁸

The second and perhaps more common role for prosthodontic treatment is in the rehabilitation of the oral cancer patient whose treatment has included surgical resection. Dental consultation before surgery is necessary, because, in many cases, appliances are constructed before operation, to permit immediate insertion.

After resection of portions of the maxilla, a prosthesis provided at the time of surgery can enable the patient to speak and eat at a standard much closer to normal (Fig. 6). This is important, both nutritionally and psychologically. The prosthesis may also serve as a matrix for surgical dressings and usually obviates the need for a nasogastric tube.²⁸ The prosthesis has to be modified or replaced as healing progresses.



Fig. 6 (a) Surgical defect following resection of squamous cell carcinoma of maxillary gingiva.



(b) Occlusor appliance fabricated from methyl methacrylate with chromium cobalt framework (Courtesy of Dr. J.D. Anderson).

Following resections of segments of the mandible, the remaining bone deviates toward the side of the defect, due initially to loss of tissue bulk and later to cicatricial contraction. Much of the resulting disfigurement and malocclusion may be prevented by the construction and insertion of a suitably designed prosthesis.²⁸

Patients who have had radiation to the jaws need dentures that are correctly designed, constructed and fitted. Defects of the surface of the face and the orbit may also be minimized by appropriate prosthetic appliances, but these are outside the scope of this article.

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Addendum — The attention of interested readers is drawn to an ongoing series of articles that extensively survey current concepts of investigation and treatment of cancer of the mouth, pharynx and larynx in volumes 11 and 12, 1982 and 1983, of the *Journal of the Otolaryngology*.

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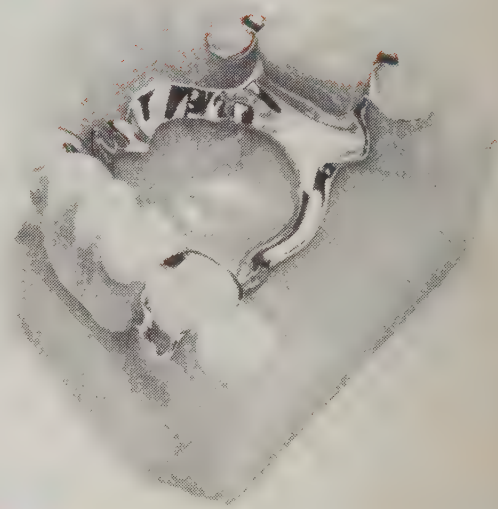
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Case Report

Peripheral odontogenic fibroma

Fred Pockrass, DDS
André Lepage, DMD
Pierre Suprenant, DDS
Sherbrooke, Quebec

ABSTRACT

Peripheral odontogenic fibroma is a rare and unusual tumor thought to arise from periodontal structures. The clinical and histologic features of a case of this disorder are presented and the histopathologic findings are discussed.

Peripheral odontogenic fibroma, according to Thomas,¹ has been defined as consisting of a fibrous collagenous connective tissue stroma with numerous rest-like epithelial islands smaller than the epithelial structures of an ameloblastoma or an ameloblastic fibroma. There is no presence of a stellate reticulum. Bone and/or cementum within the fibroma is a frequent finding, although other authors,^{2,3} have defined the lesion as a hard fibroma composed of fibroblasts and collagen in varying proportions. The degree of vascularity is questionable and bone is a frequent finding within the stroma.

Universal agreement, however, does not exist among investigators that this lesion is odontogenic in origin. It has certain features that suggest it might be derived from the periodontal ligament.⁴ It has also been called peripheral cementifying fibroma, peripheral ossifying fibroma and peripheral fibroma with calcification⁵ — hence a controversial lesion.

Farman⁶ based on a similar definition from the World Health Organization,⁷ reported after an extensive review of the literature only five undoubted cases of peripheral odontogenic fibroma. He also conducted an interesting study in South Africa and uncovered 10 new cases, nine of which were from the black population.

Most authors^{3,4,8} agree that this lesion is uncommon. In 1972, Eversole, Sabes and Rovin⁹ published a study identifying 50 cases of peripheral ossifying fibroma. They had specified that the hypercellular pattern was distinctive. However, their definition did not include the presence of epithelial tissue.

SOMMAIRE

Le fibrome odontogène périphérique est une tumeur rare et inusitée qui, croit-on, se développe à partir des tissus parodontaires. Voici un exposé sur les particularités cliniques et histologiques présentées par un cas ainsi que des commentaires touchant les découvertes de l'histopathologie.

HISTOPATHOLOGIC FEATURES

Pathogenesis of this lesion could be due either to an awakening of epithelial cells that are remnants of the dental lamina or the dental follicles, or derived directly from the periodontal ligament.⁹ Irritation or other unknown internal stimuli are thought to provoke a histologic response resulting in this growth.¹⁰

Histologically, this lesion appears hypercellular and has a parenchymal fibrous stroma within which osseous and/or cemental calcifications can be found.^{2,4} Inflammatory cells infiltrate and epithelial tissue will be found on occasion.

CLINICAL FEATURES

The growth appears as well fixed, with a sessile or pedunculated base, and is slow growing. Coloration is usually that of normal mucosa, pinkish-red; however ulcerations can be present. The lesion is typically found in the anterior region from incisor to canine and is slightly more common in the maxilla than in the mandible.⁸ Tooth displacement has been noted in some cases. The tumor is thought to occur more often in females than in males. However, the studies are controversial and no clear predilection can be given regarding age, sex and race.

Radiographically, the lesion appears radiolucent and sometimes presents a calcified stalk. A lack of pain was

noted in all of the reported cases, which might explain why certain patients wait so long before medical consultation. One such growth was reported to be 35 mm in diameter.⁶

CASE REPORT

A 66-year-old, mentally handicapped, white female was referred to the Department of Oral and Maxillofacial Surgery by her physician, concerning an oversized growth of the left maxilla. Previously, the patient had never consulted a physician. She had never learned to talk and was beginning to have problems eating, so her guardians asked for a medical consultation. Her medical history was non-existent and it was impossible to find out the exact duration of the lesion. Fortunately, the patient was cooperative.

Upon clinical examination, the patient presented with severe scoliosis, a large papule on her frontal region (later to be diagnosed as a lipoma) and a fairly large mass protruding from the maxilla.

Oral investigation revealed a spheroidal growth with a pedunculated base. The lesion measured four cm in

diameter and extended from the canine to incisor region in the left maxilla (Fig. 1). It was non-ulcerated, slightly reddened and upon palpation was bony hard.

A satisfactory medical history was impossible to obtain and a routine physical examination was negative. Standard screening laboratory tests were performed and all values were within normal limits. An electrocardiogram disclosed previous heart problems. Adequate head radiographs were difficult to obtain. A few days after admission, the operation was performed under general anaesthesia. The tumor was completely excised, residual roots found under the mass were extracted, and the maxilla recontoured. Undermining of the mucosa was completed and the incision was closed with 3-0 chromic gut. The lipoma was also excised at this time. Recovery was uneventful and the patient was discharged three days later.

DISCUSSION

After consultation with numerous oral pathologists and the Armed Forces Institute of Pathology (AFIP),



Fig. 1. Patient under general anaesthesia. Relative size and shape of lesion are evident.

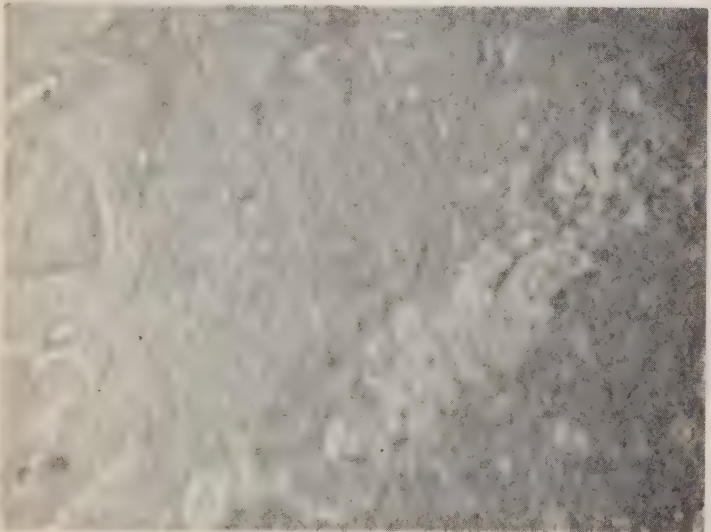


Fig. 3. Hypercellularity of the connective tissue serving as stroma is evident. Some bone is also present and adipose tissue.

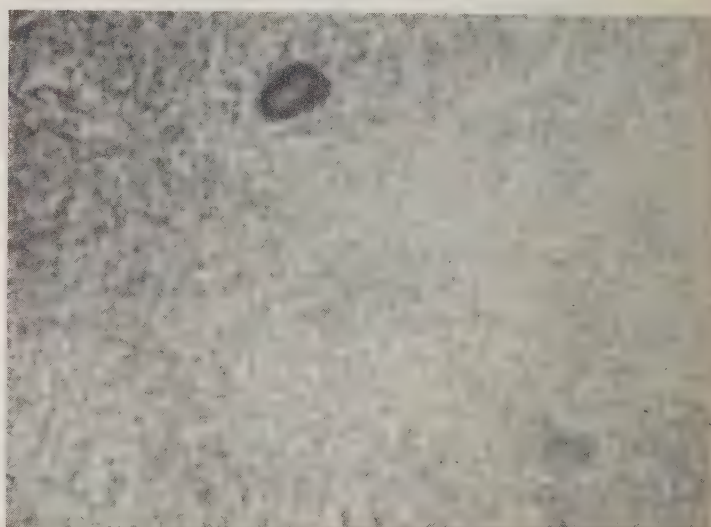


Fig. 2. Photomicrograph illustrating connective tissue and its whorling. Dystrophic calcification is present in a few areas.



Fig. 4. Photomicrograph showing both connective and adipose tissue.

the tumor was finally diagnosed as a benign fibrous proliferation consistent with peripheral odontogenic fibroma. Histologically, the lesion presented as a hypercellular fibrous stroma (Fig. 2). Bone and calcification areas were found (Fig. 3) along with adipose tissue (Fig. 4). One and a half years after removal, there is no evidence of recurrence. Many authors disagree on the salient points concerning calcifications and epithelial tissue as essential to the diagnosis of peripheral odontogenic fibroma. However, according to Eversole,¹⁰ neither are essential and the AFIP clearly diagnosed this lesion on that basis.

Drs. Pockrass and **Lepage** were general practice residents, Department of Dentistry; and **Dr. Suprenant**, Chief, Oral and Maxillofacial Surgery, Central Hospitalier St-Vincent de Paul, Sherbrooke, Quebec J1G 1B1, at the time this manuscript was prepared. **Dr. Pockrass** is now in private practice in Ottawa. **Dr. Lepage** in private practice in Sherbrooke and **Dr. Suprenant** continues in his hospital post.

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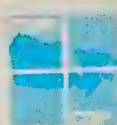
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BRITISH COLUMBIA — Dental office for lease Port Coquitlam. This 1500 sq. ft. office has been a busy, high grossing office for ten years. It contains 5 operatories, laboratory, panorex room, staff lounge and private office. Situated in a busy mall in Port Coquitlam. Present owners have outgrown space and are erecting a new building. Reply to CDA Box Number 2167.

BRITISH COLUMBIA — Okanagan Valley. Modern, 2 operator practice for sale in established dental building. Low overhead, preventative atmosphere and reasonable price. Present dentist returning for graduate work. Call (604) 542-3024.

BRITISH COLUMBIA — Vancouver. General dental practice for sale. High gross, 6 years old, located in a modern, prestigious building downtown. Owner moving out of Vancouver. Reply to CDA Box No. 2163.

ALBERTA — Edmonton. Practice Opportunity: This is an excellent opportunity to acquire an extremely progressive quality general practice in an attractive central location. The owner is able to offer a flexible combination of association, equipment and practice sale, and building lease or sale over a period that will maximize patient acceptance and goodwill. Please call Dr. Evans (403) 452-8705 after 6 pm.

MANITOBA — Active OMS. In Winnipeg Canada for sale. Surgeon retiring well established, well equipped — 1200 sq. feet. Flexible financing. Will stay to introduce. Reply to Box #2155.

ONTARIO — Oral and Maxillofacial surgery practice for sale. Excellent location and facilities. Please reply Box #2146.

ONTARIO — Ottawa. Beautiful dental practice for sale immediately or for June 1983. Well established preventive family practice with 2,200 active files 70-80% insurance. Emphasis on quality restorative dentistry and crown and bridge. 950 sq. ft. per floor (2 floors) clinic for sale or rent. Dentist relocating 25 miles away. Call Carmen (613) 235-6627 or 837-3443.

NEWFOUNDLAND — St. John's. Well established practice for sale in new, custom designed premises. Mainly restorative/preventive, very few extractions, located in excellent area of city. Full book. Price includes all equipment and materials. Available immediately due to disability. Phone (709) 437-6967.

Associateship Available

BRITISH COLUMBIA — Lower Mainland Area. Associate required for rapidly expanding dental office located in large shopping centre. 35 minutes from downtown Vancouver. Write Dr. Gover, 5511 208 St., Langley, B.C. V3A 2K4. (604) 530-4011.

BRITISH COLUMBIA — Associate wanted. Mature individuals needed for large group practice in Prince George and surrounding area. Exceptional opportunity with excellent benefits. Interested persons please contact: Dr. Frank Lo or Dr. Richard Suen, 4122 — 15th Ave., Prince George, B.C. V2M 1V9.

BRITISH COLUMBIA — Williams Lake. Associateship available in Williams Lake, B.C., starting summer 1983. A fair percentage is paid and a good gross is obtainable on virtually new equipment. Position has not been advertised before. Call Ron MacKenzie at (604) 669-3030 or Dr. Menzies 398-7161/392-2615.

ALBERTA — Wetaskiwin. Full-time associate required for modern restorative, preventive, family practice located 40 miles south of Edmonton in a city of 10,000 population. New graduate welcome. Buy in option. Contact: Dr. Ron Tratch, 5007 51st Ave. Wetaskiwin Alberta, T9A 0T9. Phone: office: 352-5076, Resid.: 352-7388, evening.

ONTARIO — Associateship leading to partnership in busy S.W. Ontario modern, 5 chair established office. Please reply to CDA Box #2152.

ONTARIO — Busy group practice seeking associate — leading to partnership — in Northern Ontario. Modern well equipped office. Bilingualism an asset. Please reply to CDA Box No. 2166.

Opportunities Available

BRITISH COLUMBIA — Victoria. Dentist. Salaried, four-day week, fully equipped clinic, begin September. Fernwood Dental Clinic, 1291 Gladstone Avenue, Victoria, B.C. V8T 1G5, 604-384-2043.

BRITISH COLUMBIA — Victoria-Sidney Area. Keen dentist with 22 very successful and happy years in preventative oriented family practice, with considerable clinical teaching experience, wants to purchase or associate in above area. Please Reply to CDA Box #2151.

NOVA SCOTIA — Attractive urban-rural community requires services of a resident dentist. Basic equipment requirements provided through government incentive grant. Well serviced Village serves as recreational, educational, health care, cultural and trading centre for existing rural population. Direct inquiries to: Village Clerk, P.O. Box 263, Tatamagouche, Nova Scotia, B0K 1V0.

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FLORIDA ESTATE SALE — Beautiful custom built house on golf and tennis club near Cypress Gardens. Has many energy saving features, solar heated pool, attached garage, air cond, 2 bedrooms, 2 baths, plus den, all appliances, totally carpeted. Beautiful mature landscaping. \$89,500 U.S. Will take offers. 1-807-983-2221.

UNIVERSITY OF HONG KONG INSTRUCTOR DENTAL TECHNOLOGIST

Applications are invited for the post of Instructor Dental Technologist in the Dental Technology Unit of the Faculty of Dentistry from September 1983 or as soon as possible thereafter.

Applicants should have wide experience in Dental Technology and hold at least one Advanced Certificate. Recent teaching experience, especially in an undergraduate school and experience in maxillo-facial technology would be an advantage.

Annual salary (superannuable) is on an 11 point scale: HK\$129,840 — 217,380. At March 15, 1983 the exchange rates were: £1=HK\$10.00; \$HK\$A=5.80; C\$=HK\$5.40; NZ\$1= HK\$4.30; US\$1=HK\$6.60. Starting salary will depend on qualifications and experience.

At current rates salaries tax will not exceed 15% of gross income. Children's education allowance and medical benefits are provided and long leave is given at the rate of one sixth of the period served. For overseas appointees housing is provided at a rental of 7½% of salary and air passages are provided on appointment, on long leave and on retirement/ resignation.

Further particulars and application forms may be obtained from the Association of Commonwealth Universities (Appts.), 36 Gordon Square, London WC1H 0PF, England or from the Appointments Unit, Secretary's Office, University of Hong Kong, Hong Kong. The closing date for applications is **30 June 1983**.

Connective Tissue Research Faculty of Dentistry — The University of Alberta

Applications are invited for two full-time positions as Research Scholars for fundamental studies on connective tissue involving periodontal disease and wound healing. Present research includes studies on the structures and functions of collagens and proteoglycans and mechanisms of connective tissue degradation. Expansion of these studies or sound independent research in another area by Research Scholars with the requisite experience will be considered. Facilities include automatic amino acid sequencing, tissue culture and electron microscopy with associated clinical areas. These positions are dependent upon successful application for competitive awards by an external granting agency. Appointment will be on a long-term basis and will enjoy the privileges of the University academic rank at which the appointment is made (Assistant, Associate Professor or Professor level presently \$29,720 — \$41,820; 37,420 — 53,658 and from 48,010).

The University of Alberta is an equal opportunity employer but, in accordance with Canadian Immigration requirements this advertisement is directed to Canadian citizens and permanent residents. Interested applicants should forward their curriculum vitae, outlines of their research interests and names of three referees to Dr. J.A. Hargreaves, Director of Graduate Studies and Research, Faculty of Dentistry, The University of Alberta, Edmonton, Alberta T6G 2N8.

The closing date for the application is **July 1, 1983**.

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Applications are invited for the Chair of Oral Surgery and Oral Medicine which will fall vacant on the retirement of Professor G.L. Howe on June 30, 1984.

Annual salary (superannuable) will be within the professorial range and not less than HK\$399,600 (C\$1 = HK\$5.40 approx.).

At current rates, salaries tax will not exceed 15% of gross income. Housing at a rental of 7½% of salary, children's education allowances, leave and medical benefits are provided.

Further particulars and application forms may be obtained from the Secretary General, Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF, England or from the Appointments Unit, Secretary's Office, University of Hong Kong, Hong Kong. The closing date for applications is **31 July 1983**.

Biomaterials Research
Faculty of Dentistry —
The University of Alberta

The Faculty of Dentistry invites applications for a full-time position of Research Scholar in biomaterials research. The successful candidate must have a dental degree with a research degree in biomaterials **or** hold a Ph.D. degree in biomaterials or dental materials science with post-doctoral experience. The position will be dependent upon successful application for a competitive award by an external granting agency. The incumbent appointment will be on a long-term basis and will enjoy the privileges of the University academic rank at which the appointment is made (Assistant or Associate Professor or Professor level presently \$29,720 — 41,820; 37,420 — 53,658 and from \$48,010). The University of Alberta is an equal opportunity employer but, in accordance with Canadian Immigration requirements this advertisement is directed to Canadian citizens and permanent residents. Interested applicants should forward their curriculum vitae, outlines of their research interests and names of three referees to Dr. J.A. Hargreaves, Director of Graduate Studies and Research, Faculty of Dentistry, The University of Alberta, Edmonton, Alberta T6G 2N8.

The closing date for application is **July 1, 1983**.

Connective Tissue Research
Faculty of Dentistry —
The University of Alberta

Applications are invited for two full-time positions as Research Fellows for fundamental studies on connective tissue involving periodontal disease and wound healing. Successful candidates must have a Ph.D. degree **or** hold a DDS, DVM or MD degree. Present research includes studies on the structures and functions of collagens and proteoglycans and mechanisms of connective tissue degradation. Facilities include automatic amino acid sequencing, tissue culture and electron microscopy with associated clinical areas. These positions are dependent upon successful application for competitive awards by an external granting agency, renewable annually for up to five years. In the case of successful applicants holding DDS, DVM or MD degrees, the research studies can be used towards obtaining a Ph.D. degree. Salaries are \$19,600 per annum plus \$1,200 for each year of academic experience (currently under review). The University of Alberta is an equal opportunity employer but, in accordance with Canadian Immigration requirements this advertisement is directed to Canadian citizens and permanent residents. Interested applicants should forward their curriculum vitae, outlines of their research interests and names of three referees to Dr. J.A. Hargreaves, Director of Graduate Studies and Research, Faculty of Dentistry, the University of Alberta, Edmonton Alberta T6G 2N8.

The closing date for application is **July 1, 1983**.

Dental Clinical Research
Faculty of Dentistry —
The University of Alberta

The Faculty of Dentistry invites applications for five full-time positions as Research Scholars in dental clinical research. The successful candidates must hold a dental degree which can be registered in the Province of Alberta and also have an additional research degree. The research degrees should be in one or more of the areas of epidemiology, computer science, microbiology, biomaterials, clinical trial design or pharmacology which are areas that will be supportive to present research programmes in the Faculty of Dentistry. These positions will be dependent upon successful application for a competitive award by an external granting agency. Appointments will be on a long-term basis and will enjoy the privileges of the University academic rank at which the appointment is made (Assistant, Associate Professor and Professor level presently \$29,720 — 41,820; 37,420 — 53,658 and from 48,010).

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The closing date for application is **July 1, 1983**.

Announcements/Avis

1983 CANADA

June/juin

The 7th Annual Meeting of the Canadian Health Libraries Association, Winnipeg, Manitoba, June 13-15, 1983. Contact: Marilyn Hernandez, Conference Co-ordinator, Department of Health Library, 220-880 Portage Avenue, Winnipeg, Manitoba R3G 0P1; (204) 786-5867.

Société Canadienne de Pédiatrie/Canadian Pediatric Society 60^e Reunion Annuelle/60th Annual Meeting, Quebec, Quebec, June/Juin 25-29, 1983. Contact Société canadienne de pédiatrie, Centre hospitalier universitaire de Sherbrooke, Sherbrooke, Quebec, J1H 5N4, 819-563-9844.

July/juillet

The 5th Canadian Congress of Dentistry for Children, Four Seasons Hotel, Calgary, Alberta, July 1-3, 1983. 5th Canadian Congress, 2nd floor, Bow Valley Square II, 205 — 5th Avenue S.W., Calgary, Alta. T2P 2V7.

"ADG-Toronto: A New Leaf on Learning", the 1983 Table Clinics program presented by the Academy of General Dentistry, Sheraton Centre, Toronto, Ontario, July 16-20, 1983. Contact: Department of Meeting Planning, AGD, Suite 1200, 211 E. Chicago Avenue, Chicago, Illinois 60611; (312) 440-4300.

September/septembre

The Ernest C. Manning Awards Foundation will present its second annual award to an innovative Canadian in September 1983. The award of \$75,000 is presented to a Canadian doing innovative research or with an innovative invention in categories which cover the life sciences, social sciences and government. For further information contact: George Dunlap, Ernest C. Manning Awards Foundation, 2300, 639 Fifth Ave. S.W. Calgary Alta. T2P 0M9 phone, 403-266-7571.

Meeting of the Canadian Academy of Prosthodontics, Vancouver, B.C., September 22-24, 1983. Contact: Dr. B.M. Jackson, 22 Water Street S., Kitchener, Ontario N2G 4K4.

The Canadian Academy of Restorative Dentistry annual meeting, Vancouver British Columbia, September 23-24 1983. Theme this year is "Esthetics — A Multidisciplinary Approach." Contact: Dr.

Terry Kline, 1505-805 West Broadway, Vancouver B.C. V5Z 1K1.

The Association of Prosthodontists of Canada, Annual Meeting, September 24-25, in Vancouver, B.C. Program Chairman: Dr. D. Donaldson, Faculty of Dentistry, University of British Columbia.

The Royal College of Dentists of Canada Symposium on Periodontal Diseases, generously supported by Colgate-Palmolive Canada, as part of the Canadian Dental Association's National Convention, Vancouver, B.C., Monday, September 26, 1983. The keynote speaker for the Symposium will be Dr. Harald Löe, newly appointed Director of the National Institute of Dental Research, Bethesda, Maryland, and presently Dean of the School of Dental Medicine at The University of Connecticut.

First International Symposium on: "Today's Research, Tomorrow's Health Care Delivery." At Faculty of Dentistry, Dalhousie University, Halifax, N.S. September 30 — October 1. Contact: International Symposium, Anniversary 75, Continuing Education Office, Faculty of Dentistry, Dalhousie University, Halifax, N.S. B3H 3J5. Telephone (902) 424-2248 or 424-6507.

Canadian Dental Association 1983 National Convention/l'Association dentaire canadienne Congress Nationale, Vancouver British Columbia, September 25-28 1983.

October/octobre

The Canadian Academy of Endodontics is holding its annual general meeting Winnipeg Manitoba, October 14-16, 1983. Contact: Dr. W. H. Christie, 233 Kennedy St. Suite 506, Winnipeg Man. R3C 3J5.

November/novembre

The 25th Anniversary Symposium entitled "Will Basic Research Influence Clinical Dentistry in the Future?", Faculty of Dentistry, University of Manitoba, Winnipeg, Manitoba, November 18-19 1983. Contact Dean, Dr. A. Schwartz, Faculty of Dentistry, University of Manitoba, 780 Bannatyne Ave., Room D-113, Winnipeg, Man. R3E 0W3. Phone 204-786-3631.

Toronto Academy of Dentistry Annual Winter Clinic, Royal York Hotel, Toronto Ont. November 24, 1983. Contact: Academy of Dentistry, 234 St George St. Toronto Ont. M5R 2P2, Telephone 416-967-5649.

International

June/juin

The International Congress of Oral Implantologists and the Southern Academy of Implant Dentistry present their Thirtieth Annual Implant seminar. Atlanta Georgia, June 3-5 1983. Contact either: Dr Maurice J. Fagan III, Program Chairman, the Southern Academy of Implant Dentistry, 960 Johnson Ferry Rd. Suite 440, Atlanta Georgia, 30342, (404) 255-5006 or Mr. Clifford J. Kirschner, Executive Director, The International Congress of Oral Implantologists, P.O. Box 2277 Grand Central Station, New York, New York 10163, 201-783-6300.

The next meeting of the American Dental Society of Europe will be held at the St. Pierre Park Hotel, Guernsey from June 28 to July 1, 1983. All enquiries should be made to: Brian J. Parkins, Hon. Secretary, 57 Portland Place, London WIN 3AH England.

The 1983 Annual and Scientific Meeting of the British Dental Association, Stratford-upon-Avon, Great Britain, June 30 to July 3, 1983. For further information contact: British Dental Association, 64 Wimpole Street, London W1M 8AL.

July/juillet

6th Dentistry International Congress, Rio de Janeiro, Brazil, July 16-21, 1983. For further information contact: A.B.O. — Rio de Janeiro, Ave. 13 de Maio — S/1001/6, CEP. 20.031, Rio de Janeiro, RJ, Brazil.

September/septembre

The Seventh Annual Conference on Endodontics, University of Pennsylvania, Philadelphia PA., September 12-15 1983. Contact: University of Pennsylvania, School of Dental Medicine, Division of Continuing Education, 4001 Spruce St. Philadelphia PA. USA 19104.

The 4th Congreso Internacional de Ortodoncia, Buenos Aires, Argentina, September 16-21, 1983. Plaza Hotel. Contact Sociedad Argentina de Ortodoncia, Montevideo, 971 (1019) Buenos Aires, Argentina.

The American Academy of Periodontology 69th Annual Meeting, Atlanta Georgia, September 28-October 1, 1983.

Contact: the American Academy of Periodontology, 211 E. Chicago Ave. Room 924. Chicago Illinois, 60611, USA. 312-787-5518.

The 21 Deutscher Zahnarztetag (German Dental Meeting), Berlin September 29-October 1 1983. Contact: Prof. Dr. Peter Shulz, Universitätsstraße 73, 5000, Köln, 41, (Lindenthal) Telephone, (0221) 401041.

October/octobre

The First South African Endodontic Congress, Johannesburg, South Africa, October 2-7, 1983. Post Congress tours are also available. Contact either: Westpoint Travels Ltd, 11 Biccarr St. (Corner Smit St.) Braamfontein, 2001, South Africa. or South African Tourist Corporation, 20 Eglinton West, Toronto, Ont. Phone: 416-482-7077.

Seventh Annual American Dental Association Conference on Foods, Nutrition and Dental Health. Chicago, Illinois, October 27, 28 at Harold Hillenbrand Auditorium, 211 East Chicago Ave. Abstracts of research findings related to food cariogenicity and technology may be submitted for oral or poster presentation. Contact Joan C. Sayers, Staff Coordinator, FNDH Program Research Institute, ADA Health Foundation at the above address, in Chicago, Ill. 60611, or telephone (312) 440-2530.

November/novembre

Fédération Dentaire Internationale, 71st Annual World Dental Congress, Tokyo Japan, November 14-20, 1983. Contact: Japan Dental Association, 1-20, Kudan-Kita 4-chome, Chiyoda-ku, Tokyo 102, Japan.

1984+

The Centre of Pediatric Dentistry is organizing the "Second Dominican Congress of Pediatric Dentistry" in Santo Domingo, January 27-29 1984. Congress themes are Prevention and Clinical Aspects. Fees are \$50 U.S. Contact: Dr. Franklin Garcia-Godoy, Centre de Odontologie Pédiatrique, P.O. Box 2753 Santo Domingo, Dominican Republic, Telephone 809-689-4277 afternoons and evenings.

La Commission d'Études Biomateriaux créée par le Centre Français de la Corrosion (Cefracor) organise à Strasbourg Germany au Palais de Conseil de l'Europe sur le thème "Corrosion et dégradation

des biomatériaux et leurs incidences cliniques." les 5-7 Mars 1984. Pour tous renseignements s'adresser au Secrétariat du CEFACOR, 28 rue Saint Dominique 75 07 PARIS. Tél: 705.10.73 ou 705.39.26.

International Association of Oral Pathologists general meeting, to be held in Noordwijkerhout, the Netherlands, June 4-7 1984. Contact: Congress Secretariat, 2nd Meeting of the International Association of Oral Pathologists, c/o Mrs. R. Mooijen, AZVU Pathologisch Instituut, De Boelelaan 1117, MB Amsterdam, the Netherlands.

Ninth Annual Congress of Dietetics, Toronto, Ontario, July 1-6, 1984. Hilton Harbour Castle Hotel. Topics covered will be varied. Continuing Education credits will be assessed for ADA and CDA registered dietitians. Contact: Congress Canada, Suite 603, 250 University Ave., Toronto, Ont. 416-591-1498.

The New Zealand Dental Association is holding its biennial conference, Auckland New Zealand, August 12-17 1984. Contact: Dr. N. P. Ewart, Conference Secretary, P.O. Box 28085 Auckland 5, New Zealand.

Canadian Dental Association 1984 National Convention/l'Association dentaire canadienne congress nationale, 1984. Montreal Quebec, April 8-12, 1984. Contact Dr. Morton Lang, 3565 Berri St. Suite 200, Montreal Que, H2L 4G3. Phone: (514) 842-9112.

Canadian Dental Association 1985 National Convention/l'Association dentaire canadienne, congress nationale 1985, Ottawa Ontario, September 29-October 2, 1985.

Scandinavia's largest international trade fair, "Swedental '84" will be held in Stockholm Sweden, November 14-16 1984. Contact Stursberg/Hewitt/Radley, U.S. Representatives, 6671 Sunset Blvd. Suite 1525, Los Angeles California. 90028, 213-462-6260.

The Indian Dental Association is presenting its 39th annual conference, Bombay India, last week of December 1984. Contact: Dr. L. K. Ghandi, Conference Secretary, 39th IDA Conference, C-56 N.D.S.E. Part-II, New Delhi, 110049.

The 24th Australian Dental Congress will be held in Brisbane Australia May 12-17 1985. The Congress is hosted by the Australian Dental Association. Contact: The Congress Secretariat, P.O. Box 29, Parkville, Vic. Australia, 3052.

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ADVERTISERS' INDEX

Allan's Travel Service Ltd.	423
Ash Temple	359
John O. Butler	353
CDSPI	404,413,415,373
Fédération Dentaire Internationale	373
Henry Schein Inc.	IBC
Iberville Developments	427
McNeil Pharmaceuticals	409
Merck Frosst	360,361,363
C. V. Mosby Co. Ltd.	367
Nobilium	424
Peer Review Seminars	370
Pfingst	395
Procter and Gamble Co. of Canada Ltd.	354
Rhône-Poulenc Pharma.	362,406
G. D. Searle and Co.	376,377
Tidens Tan AB	416
Upjohn Co. of Canada	IFC, 372
Vadare Publishing Inc.	368
Warner Lambert	OBC
Xerox	368 (a), 369

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